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# DOMINION DENTAL JOURNAL

(Official Organ of all Dental Associations in Canada)

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# Dominion Dental Journal

Vol. XXXVII. TORONTO, JANUARY, 1925 No. 1

## A Study of the Efficiency of Dental Fillings

*By C. Jane Fraser, M.A.*

*From the Department of Dental Research, University of Toronto.*

Since the days of Black and Wedlestedt the only extensive studies of the efficiency of dental fillings have been those undertaken by certain commercial firms. The object of these firms has been the improvement of the quality of their products, but it is quite natural that manufacturers should take interest chiefly in those types of research which would furnish attractive advertising material.

This present research was undertaken in order to determine:—

1. If certain of the dental cements and fillings on the market were germicidal.
2. If any of these cements or fillings would permit bacteria to pass through or around them.

The work was begun in March 1920 and is still in progress.

The types of fillings and cements used were:—

1. Copper cements—five varieties.
2. Copper Amalgam—one variety.
3. Oxy chloride of Zinc—one variety.
4. Temporary Cements—two varieties.
5. Alloys—four varieties.
6. Gutta Percha Stopping—one variety.
7. Gutta Percha—three varieties.
8. Silver Cements—two varieties.
9. Silicate Cements—two varieties.

The particular ones of the above types, that were chosen to represent that group, were selected either because of their popularity, because of the rather extreme claims of the makers, or because we believed them to have some special claim or value.

*Germicidal Power of Cements*

Not all of these cements and fillings are, of course, expected to be germicidal, and the manufacturers put forth no such claims for them; but some, especially the copper and silver cements, are widely advertised and believed to have germicidal properties. These were of the greatest interest but all of the others, except the silicate cements, were tested as controls.

*Method*

The method employed was as follows:—

The cements and fillings were mixed according to the given directions and moulded in a vise into cubes of 4mm size. When quite set, some were put into sterile distilled water and let stand several days before testing; others were not. Four plate cultures were made using 0.5 cc. of a broth 18 hour culture and 10 cc. of agar agar for each plate. In the earlier

tests cultures of Bacillus coli were used but later Bacillus proteus was used instead as it renders the media alkaline and not acid when growing. Three cubes of one kind of cement or filling were placed on the plate before it was hardened. On incubation the plate became uniformly opaque except in the areas in which the growth of bacteria had been inhibited. See Fig. 1. In these areas, about the cubes of cement, the agar remained clear. The diameter of the area of inhibition was measured with a millimeter scale and, for comparative purposes, it was considered that the amount of soluble germicide in the cement and its ability to diffuse into the agar was in proportion to the diameter. Measurements were made after 48 hours' incubation and after seven days. About every eighth day the pieces of cements were put on new plates. This was continued until no inhibition was obtained on at least two successive transfers.

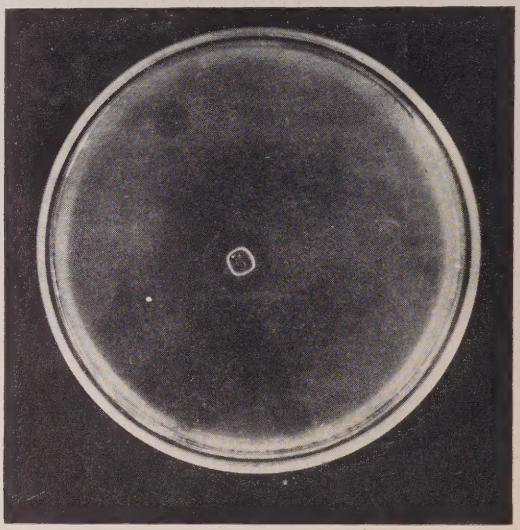

Fig. 1—Cube of cement showing area of inhibition of bacterial growth.

When the tubes were plated immediately after being removed from the moulds, varying degrees of inhibition were obtained, ranging from a diameter of 7 mm. to 22 mm.. The gutta percha and gutta percha stopping showed none whatever. (See Fig. 2). The second time the cubes were plated there was a marked decrease, some of the fillings showing an inhibition of growth—the copper amalgam. With these cubes the area was increased. In all but two fillings—a silver cement and a copper amalgam—there was a complete loss of any apparent germicidal power after five transfers. Two of the copper cements retained the inhibitory effects for five transfers but the others lost practically all in the second or third plating. The time factor in the loss of germicidal power after the first plating, was not as important as the number of platings—the second plating giving about the same area of inhibition whether 7 days or 14 days had elapsed.

The cubes that were placed in sterile water or even let stand a number of days before plating, showed an area of inhibition on the first plate about equal

to that obtained on the second transfer of those not put in water. For example, one copper cement plated eight hours after moulding, showed areas of inhibition with diameters of 17mm. and 20mm. The same mix of cement let stand five days before plating gave diameters of areas of inhibition 6mm. to 8mm. The first germicidal power of the cements is obviously due to the free acid used in mixing the cements. This free acid is evaporated or washed out by letting the cubes stand, by putting them in water, or by the successive transfers. In filling a tooth this germicidal effect must be considered an important factor, especially if the cavity has been imperfectly sterilized. However, if the infection enters the cavity after it has been filled the cements or fillings cannot be expected to exert any germicidal effect.

The two exceptions referred to, were a silver cement and copper

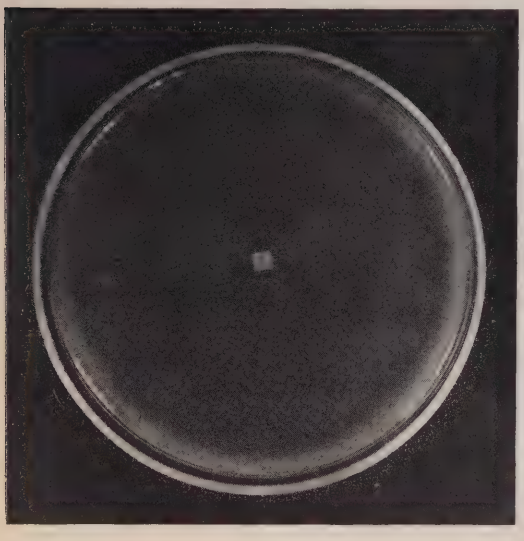

Fig. 2—Cube of cement showing no area of inhibition of bacterial growth.

amalgam. This silver cement in one trial retained some of the germicidal power for fourteen transfers. Other tests with the same cement lost it more rapidly. The initial diameter of the area of inhibition was no greater than that of some of the others which lost all inhibitory power immediately. The increase in the time required to lose its germicidal power was, therefore, not owing to the greater amount of free acid to be removed but to some soluble factor in the cement.

*Copper Amalgam*

The copper amalgam was of particular interest. After the first transfer the diameter of the area of inhibition increased from 7mm. to 22mm. on the fourth transfer. This then decreased to about 10mm. on the tenth transfer and has remained about this width for fifty transfers. The whole plate on incubation became more or less green and the growth was not as dense as that on the plates with other fillings made at the same time. The copper, obviously, was soluble and responsible for the germicidal effect. The total weight of four cubes of copper amalgam when

made was 3.2012 grams. After five transfers, extending over three months, they weighed 3.0150 grams, a loss of 5.8 per cent. Three cubes when first made in March, 1920, weighed 2.6232 grams. After being plated more than fifty times during two and a half years, they weigh 1.2860 grams—a loss of about 49 per cent. It was thought that perhaps the C02 of the air, the acidity of the media, or the bacteria were responsible for the disintegration of the copper. Therefore a series of tests were made as follows:—

1. Into two cubes of agar (plus 0.5 acid to phenolphthalein) cubes of amalgam were placed. One was inoculated with Bacillus proteus, the other was not.

2. Another set was prepared as above but the agar was neutral to phenolphthalein.

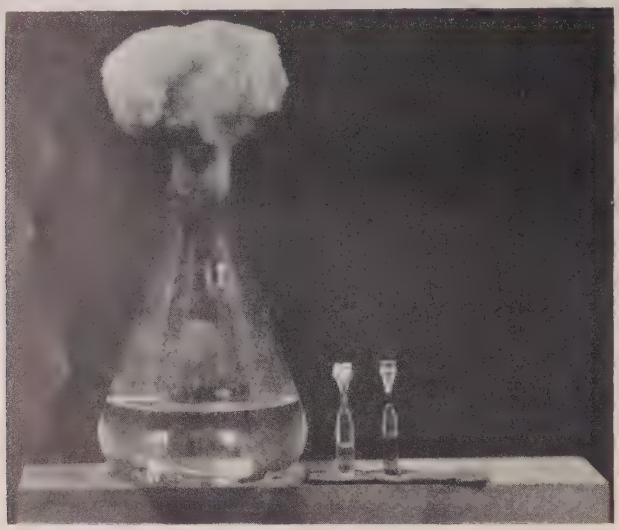

Fig. 3.

3. Four cubes were plated as usual on four plates in which the acidity was 0.5 plus phenolphthalein.

These were all done in duplicate—one series being incubated at 37° C. —the other at room temperature (17°-21°C.).

All the tubes and plates on standing showed some green color in two weeks, the one showing the least being the acid tube inoculated with Bacillus proteus that had been kept at room temperature. The tubes and plates in the incubator, as might reasonably be expected, became green a little sooner than the others but there was very little difference between any of the tubes. The plates appeared green sooner than the tubes but the difference was not so marked that it could be attributed to better conditions of observation as the agar was in a thinner layer on the plate and did not mask the green color. The solubility of the copper did not appear to be affected either by the reaction of the medium or by the

bacteria. In considering the germicidal power and the solubility of the copper it must be remembered that in these tests five sides of the cubes on the plates and six sides of those in the tubes were exposed to the solvent action of the medium; whereas in a dental filling two sides at the most, and more often but one side as copper amalgam is generally used in box or four wall cavities, would be exposed to any such solvent action. Therefore the germicidal effect would be present on the exposed surfaces but the disintegration of the copper amalgam per gram weight would be much less.

*Conclusions*

1. All the cements when first mixed and plated as soon as hard, are germicidal owing to the excess of acid used in mixing the cements.

2. All the cements and fillings tried by this technique with one exception, lost all germicidal power after repeated transfers. One silver cement retained its inhibitory power much longer than any of the others.

3. Copper amalgam is markedly germicidal owing to the solubility of the copper. It might be used with decided advantage, where the discoloration of the tooth is not a factor that need be considered, as a temporary filling, in root canals, in cavities below the gingival line, and when it could be covered on the exposed surface by capping or another filling.

*Permeability of Dental Cements*

To test whether the above cements would permit bacteria to pass through or around them the following technique was used:—Small glass ampules about 5cm. long and made of glass tubing 6mm. in diameter were constricted to 1mm.-2mm. about 5mm. from the open end. This made a cavity to represent the tooth cavity and the constricted part corresponded to the root canal. The inside of the cavity was etched with hydrofluoric acid in order to give the fillings a rough surface to which to adhere, thus more closely resembling the conditions found in the tooth than smooth glass. The lower part of the tube was filled with plain broth Ph 7. 2. and sterilized. The cements were mixed according to the given directions on a sterile plate and with sterile instruments and the open tops of the ampules filled. At least twelve ampules were filled with each cement—in some cases many more. After the filling had set, the ampules were washed several times in sterile distilled water, then in alcohol. They were then immersed in flasks containing sufficient sterile broth to completely cover them. (See Fig. 3). After two days' incubation any ampule within which the broth appeared cloudy and was therefore contaminated, was discarded. This occurred very seldom. The broth in the flasks was then seeded with B. proteus. In a few of the first tests Streptococcus viridans and Bacillus coli communior were used. Both Bacillus proteus and Bacillus Coli are small motile organisms which grow very readily in plain media, and were therefore most suitable—Bacillus proteus especially so, as it is a non acid producer. The motility is probably of no importance, but it was thought that, as a cement which remained impermeable to motile organisms undoubtedly would be impermeable to non-motile organisms, it would be preferable to use motile organisms. The ampules were examined from day to day and any which appeared opaque were removed and opened and smears were then made to determine if the organism within the small ampule was the same that had been in the surrounding media. If the organism was the same, it was considered to have passed either through or around the filling—either being unsatisfactory

from a dental point of view for a dental filling. After the ampules had been exposed to broth cultures for varying lengths of time (ranging from 50 days to 412 days) they were placed in sterile distilled water for about six weeks as it was thought that the cements might be impermeable to broth cultures but permeable to water. If they were impermeable to water they would probably be impermeable to broth and saliva. This was found to be the case, for none except Gutta Percha which will be discussed later, showed any growth within the ampule when put into broth cultures after being in water.

Table No. 1 gives some of the results from exposing the ampules to bacterial cultures.

TABLE NO. 1

Permeability of Cements and Fillings to Bacterial Cultures

| Fillings | Average No. of days in culture | Number of Ampules | % sterile |
|---|---|---|---|
| Copper Cements | | | |
| 1. Black | 269 | 20 | 100 |
| 2. Black | 370 | 12 | 100 |
| 3. Red | 95 | 18 | 100 |
| 4. White | 245 | 13 | 92 |
| 5. White | 259 | 25 | 92 |
| Copper Amalgam | 158 | 19 | 100 |
| Oxychloride of Zinc | 340 | 24 | 100 |
| Temporary Cements | | | |
| 1. | 49 | 15 | 100 |
| 2. | 272 | 18 | 100 |
| Silver Cements | | | |
| 1. | 225 | 37 | 68 |
| 2. | 247 | 36 | 67 |
| Silicate Fillings | | | |
| 1. | 85 | 13 | 100 |
| 2. | 85 | 14 | 100 |
| Alloys | | | |
| 1. | 135 | 12 | 100 |
| 2. | 135 | 12 | 100 |
| 3. | 135 | 14 | 100 |
| 4. | 135 | 12 | 100 |
| Gutta Percha Stopping | 120 | 24 | 37 |
| Gutta Percha | | | |
| 1. | 135 | 13 | 100 |
| 2. | 135 | 13 | 100 |
| 3. | 135 | 12 | 100 |

N.B. All the ampules of one filling were not prepared at the same time—various mixes are therefore represented. Also, some were exposed for longer periods of time than were others—none for less than 45 days and most of them for a longer time. An average is given in the tables.

From this it may be seen that all the black and red copper cements, and alloys, tried were quite impermeable to the bacteria. The white copper cements appeared less efficient. The copper amalgam also appeared to be almost impermeable but there is the question whether these negative results were due to its impermeability or rather to the constant germicidal action of the copper killing the bacteria before they reach within the ampule. This may be also a factor with the black copper cements for though on the plates of the germicidal tests no green color could be seen, yet the broth within the ampules, after several months became obviously green—indicating that some of the copper was soluble. This was even more marked in the flasks when the broth on the ampules was not poured off but just replenished as it evaporated. Contrary to expectation the oxychloride of zinc, the temporary cements and synthetic porcelains remained 100% sterile. A considerable difference was found between gutta percha stopping and gutta percha. The stopping was quite unsatisfactory but the gutta percha—three varieties exposed forty-five days at 37.5°C. to bacterial culture remained 100% sterile. They were then exposed to water for 120 days and remained impermeable. They were again exposed in a broth culture at room temperature (20°C.) and in

twenty days in one variety 3 out of 14 showed growth, in another 2 out of twelve. Chance of temperature, thereby causing contraction was probably the factor responsible—the bacteria passing probably between the filling and the wall. In using gutta percha as little heat as possible should be employed.

The two silver cements were the most unsatisfactory. Great variation was found between different mixes of both the silver cements. One series of 19 ampules exposed about 100 days remained 84.5% sterile. This irregularity of results with these two silver cements was found repeatedly. It would therefore appear that under present condition they may be quite impermeable but require more careful technique in mixing and filling to obtain the best results.

Table No. 2 shows some of the results when the ampules were placed in sterile water.

TABLE NO. 2.

Permeability of Fillings to Water

| Fillings | No. Ampules | No. Days | Results |
|---|---|---|---|
| Copper Cements | | | |
| 1. | 14 | 46 | No water |
| 2. | 15 | 146 | No water |
| 3. | 11 | 200 | No water |
| 4. | 13 | 46 | Some doubtful |
| 5. | 25 | 81 | One definitely with water, others suspicious |
| Copper Amalgam | 19 | 103 | Three with water |
| Oxychloride of Zinc | 24 | 100 | One definitely, several doubtful |
| Temporary Cements | | | |
| 1. | | | |
| 2. | 18 | 125 | Water in two |
| Silver Cements | | | |
| 1. | 31 | 112 | Seven definitely with water. |
| 2. | 26 | 145 | One mix of thirteen was very permeable, others were not. |
| Silicate Fillings | | | |
| 1. | 13 | 150 | All doubtful |
| 2. | 14 | 150 | No water |
| Alloys | | | |
| 1. | 12 | 110 | No water |
| 2. | 12 | 110 | No water |
| 3. | 14 | 110 | No water. |
| 4. | 12 | 110 | Doubtful |
| Gutta Percha Stopping | | | |
| Gutta Percha | | | |
| 1. | 13 | 110 | Six doubtful |
| 2. | 13 | 135 | No water |
| 3. | 12 | 110 | Water in seven. |

N. B. All the ampules of the same filling were not filled at one time.

Exposing the cements to water is, of course, quite unfair to them and the conditions in the broth more closely resemble the conditions of the mouth. Water might pass through or around the fillings whereas the more viscid saliva would not do so. This is probably the reason why so many which had withstood the bacterial culture permitted the water to pass within. The silver cement B. which had admitted bacteria in so many tests is of particular interest, for none of those ampules which had withstood the bacterial cultures permitted the water to pass within. This is confirmation of the idea that these cements are subject to greater error in technique in mixing and filling. Those cements which withstood the water should of course be considered most efficient but the conditions are rather extreme.

*Conclusions*

1. The black and red copper cements were most efficient, the white ones less so.

2. Copper amalgam is sufficiently impermeable or germicidal to be a most efficient filling, especially if it is protected on the oral surface in some way. No doubt if left exposed for a long time it would become permeable as the copper would disintegrate.

3. The silicate cements were impermeable to bacteria but one was not impermeable to water.

4. Gutta percha stopping is most inefficient to seal a cavity but gutta percha, if properly put in, should be quite satisfactory.

5. The silver cements require more careful technique in mixing and filling.

---

## Oxychloride of Zinc Temporary Filling

*Charles E. Pearson, D.D.S., Toronto.*

Oxychloride of Zinc temporary filling is prepared as follows.

Liquid. Saturated solution of Merck's U.S.P. fused-sticks, Zinc Chloride.

Powder. Squibbs "Heavy" Zinc Oxide. Modify the time of setting by adding a few drops of water to the solution. The more water added, the slower the setting and the softer the mass when set. Add a little Yellow Ochre to the powder if you wish to get away from a pure white color.

Use what we call a "Dump Mix" that is put all the powder into the liquid at once; not as with Oxyphosphate adding little at a time until stiff enough. Be sure the filling is set well before coming in contact with soft tissue of the cheek or tongue. I have never noticed any cauterizing effect if this rule is followed but I have seen trouble on the cheek if the setting is too slow and is interfered with by saliva and then you get the action of the chloride, which makes a very sore mouth.

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## Annual Report of Dental Service, Department of Public Health, Toronto, 1924

*Charles J. Hastings, M.D., Medical Officer of Health.*

*Edmund A. Grant, D.D.S., Director of Dental Service.*

The Dental Service in the Toronto schools is one of the many health activities conducted by the Department of Public Health.

The staff consists of a Director, and thirty-one dental officers, four of whom are on full time duty and the remainder on half-time. The service aims to make a dental examination of every child during the school year, and to instruct them on the care of the teeth and the importance of mouth health. As a result of the report sent to the parents, many children are treated by the family dentist and in addition the Department conducts twenty-eight clinics in the schools.

### Dental Survey in Public Schools.

This is conducted by three dental officers who devote their whole time to this work. The examination is very thoroughly made, using mouth mirrors and explorers. On completion of each class, a fifteen-minute talk is given on the care of the teeth, and a leaflet given to each child.

Through the kindness of the Oral Hygiene Committee of the Ontario Dental Association, their film, "Tommy Tucker's Tooth" has been shown in a number of schools, and has aroused a great deal of interest.

*Summary of Survey*

| | |
|---|---|
| Number of children examined | 65,997 |
| Children with defective teeth | 42,206 |
| Percentage with defective teeth | 64% |
| Classroom talks | 1,635 |

In the Separate Schools, the survey work is done by the regular staff of four dentists who suspend their clinic work for a period of a month or six weeks until this is complete.

| | |
|---|---|
| Number of children examined | 9,895. |
| Children with defective teeth | 7,371 |
| Percentage with defective teeth | 74% |
| Classroom talks | 254 |

*Grand Total*

| | |
|---|---|
| Number of children examined | 75,892 |
| Children with defective teeth | 49,577 |
| Percentage with defective teeth | 65% |
| Classroom talks | 1,889 |

It may be noted that the percentage of those having defective teeth is higher than shown for the last two or three years. This may be accounted for by the following reasons:—

(1) The more thorough examination.

(2) The Dental Service was not increased this year although the school population is reported to have increased by about 3,000.

(3) Owing to the financial depression, fewer cases are being sent to the family dentist.

*Nineteen Operative Clinics in Public Schools.*

(This also includes summer clinics in the Preventorium for two weeks; Victoria Park Forest School for six weeks, and High Park Forest School for one month.)

*Summary of work done*

| | |
|---|---|
| Extractions of Deciduous teeth | 16,796 |
| Extractions of permanent teeth (6 year molars) | 621 |
| Local anaesthetics | 8,600 |
| Amalgam fillings | 34,175 |
| Cement fillings | 13,191 |
| Temporary fillings | 3,842 |
| Prophylaxis treatments | 7,298 |
| Arsenic devitalisations | 652 |
| Root treatments | 3,005 |
| Root fillings | 883 |
| Other treatments — relieving pain, silver nitrate, opening abscesses, etc. | 16,466 |
| Number of patients treated | 37,025 |
| Number of patients completed | 22,699 |

*Four Extraction Clinics in Public Schools*

*Summary of work done*

| | |
|---|---|
| Extractions of deciduous teeth | 15,376 |
| Extractions of permanent teeth | 2,527 |

| | |
|---|---|
| Local anaesthetics | 8,476 |
| General anaesthetics | 1,224 |
| Number of patients treated | 6,178 |
| Number of patients completed | 1,600 |

The Dental Service in the Separate Schools is carried on by four dental officers in five clinics situated in the schools:

*Summary of work done*

| | |
|---|---|
| Extractions of deciduous teeth | 4,489 |
| Extractions of permanent teeth | 410 |
| Local anaesthetics | 1,474 |
| Amalgam fillings | 4,362 |
| Cement fillings | 3,314 |
| Temporary fillings | 212 |
| Prophylaxis treatments | 1,442 |
| Arsenic devitalisations | 45 |
| Root treatments | 206 |
| Root fillings | 54 |
| Other treatments—relieving pain, silver nitrate, opening abscesses, etc. | 410 |
| Number of patients treated | 4,937 |
| Number of patients completed | 2,803 |

*Grand total of work in both Public and Separate Schools*

| | |
|---|---|
| Extractions of deciduous teeth | 36,661 |
| Extractions of permanent teeth | 3,558 |
| Local anaesthetics | 18,550 |
| General anaesthetics | 1,224 |
| Amalgam fillings | 38,537 |
| Cement fillings | 16,505 |
| Temporary fillings | 4,054 |
| Prophylaxis treatments | 8,740 |
| Arsenic devitalisations | 697 |
| Root treatments | 3,211 |
| Root fillings | 937 |
| Other treatments | 16,876 |
| Total number of operations | 149,550 |
| Total number of patients treated | 48,140 |
| Total number of patients completed | 27,102 |

*Brief Summary*

| | |
|---|---|
| Number of children examined | 75,892 |
| Number with defective teeth | 49,577 |
| Number treated in school clinics | 48,140 |
| Number completed in school clinics | 27,102 |
| Number of operations performed | 149,550 |

*Cost of the Service*

The sum of $56,000 was allocated by the City in 1924 for this Service, made up as follows—

| | |
|---|---|
| Salaries of Dental Officers | $39,672 |
| Salaries of Dental Assistants | 9,982 |

| | |
|---|---|
| Other Services | 1,357 |
| Supplies, dental and otherwise | 3,750 |
| Equipment and maintenance | 1,239 |

Complete figures of expenditures are not yet available, but it is known that they do not exceed this amount and there may be a small balance.

Comparing this sum of money with the school population of 90,792 and the amount of work done, some interesting figures will be noted.

(1) Cost per child—60c.

or estimating the cost of the dental survey at 10c. per child we would have—

| | |
|---|---|
| 75,892 examinations costing | $ 7,589.20 |
| 149,550 operations at 32c. | 48,410.80 |
| | $56,000.00 |

When it is considered that the education cost for 1924 was $84.00 per child, this small additional amount would seem worthwhile expenditure, bringing as it does recognized benefit in better mouth health among the children and consequent mental improvement.

# SOCIETIES

## Minutes of the Meeting of the Dominion Dental Council, Vancouver, B.C., August 7th, 1924

Present Drs. Magee, McGuire, Bush, Clay, Bagnall, Thomson and Cowan.

President, Dr. Magee, being sick, Dr. McGuire, 1st Vice-President, took the chair.

The correspondence regarding the paper on "Medicine and Surgery" was read. Moved by Dr. Bagnall, seconded by Dr. Bush, that we appoint Dr. F. E. Resden, L.D.S., D.D.S., M.B., of Toronto, as Examiner in "Medicine and Surgery."

The report of the Secretary, as enclosed, was then submitted, carried, and on motion of Dr. Thomson, seconded by Dr. Bagnall, received.

Moved by Dr. Clay, seconded by Dr. Thomson, that the Secretary be instructed to write to each of the Examiners asking them to expedite the valuing of the papers as much as possible and drawing their attention to the loss sustained by the candidates through delays as at present experienced. Carried.

The report of the treasurer, as enclosed, was read.

Moved by Dr. Bagnall, seconded by Dr. Clay, that the treasurer's financial statement be received. Carried.

Dr. Morrison, Examiner in Operative Dentistry, sent in his resignation.

Moved by Dr. Bagnall, seconded by Dr. Clay, that we accept his resignation with regret. Carried.

Moved by Dr. Clay, seconded by Dr. Bagnall, that Dr. Dawson, 2 Bloor St., Toronto, be appointed as Examiner in Operative Dentistry, providing that he is a holder of a D.D.C. Certificate. Carried.

Moved by Dr. Clay, seconded by Dr. Bush, that hereafter all Examiners be appointed from holders of the D.D.C. Certificate whenever this is possible and unless some unusual condition exists. Carried.

The President submitted his report as follows:

To the members of the Dominion Dental Council.

Gentlemen:

Once more I have the great pleasure of meeting old friends in the Council. My official greetings in no measure represent the warmth of my feelings for you, collectively and individually.

This twelfth meeting of the Council is to be more momentous than any previous meeting, inasmuch as there are many more subjects requiring careful consideration than have ever before been presented at any one time.

In order that much valuable time may be saved in Council deliberations, I present each member with a list of questions that have developed from correspondence, so that each may consider them at leisure between our sessions and decide what attitude the Provincial organization he represents would assume on each one.

Many of them are non-controversial,—relating as they do to matters facilitating the business of the Secretary's office; but for those matters affecting either the interests of the provincial organizations or the rights of candidates for certificates, I hope a practical solution may be speedily arrived at in every case.

The sub-joined list of Topics for Discussion is submitted without further comment.

Anticipating your courteous acceptance of the rulings from the Chair, and trusting that the result of our conference will be to strengthen Dominion Dental Council aims and objects; in the general advancement of our profession,—

My confreres and Gentlemen, I have the honor to be

Your obedient servant,

JAS. M. MAGEE, President.

List of topics for discussion:

(1) What is to be done in case a suitable Dental Practitioner willing to accept the position of Presiding Examiner cannot be found?

(2) Fixing the several responsibilities of Presiding Examiner, Assistant Examiner, and Deputy Presiding Examiner.

(3) Defining the qualifications and fixing the fee for "Watcher."

(4) Requiring that the statutory Declaration shall be furnished before the first examination is begun.

(5) Insisting upon all candidates forwarding their applications for examination, to the secretary, in time for him to advise the Presiding Examiners of their prospective duty.

(6) Making a drastic ruling covering violation of either subsection "b" or "c" of section 45 of the constitution, making the candidate ineligible for a Certificate.

(7) Demanding that candidates who through negligence cause unnecessary expense to fall upon the Council, defray extra costs.

(8) Accepting notes from candidates in payment of the requisite fee.

(9) Revision of the requirements of the clinical examination.

(10) What attitude does the college assume in the case of students taken suddenly ill on the eve of examination day? Would the D.D.C. grant any concessions in a similar situation?

(11) The question of members criticising examination papers for the purpose of offering suggestions for improvement. Demanding that the subject matter of questions be confined to matter contained in text books listed in the calendars on Dental Colleges.

(12) The matter of insisting on Examiners attending to the examining and marking of papers,—arranging their vacations accordingly.

(13) Take up the whole matter of examinations, so that no examination shall result in a financial loss to the Council.

(14) The feasibility or desirability of arranging with the recognized colleges to conduct our examinations.

(15) The question of treatment of Certificate holders who advertise, or in any way violate the code of Ethics.

(16) Debate the recommendation of the Past Master for an annual meeting.

(17) Discuss the question of Reciprocity of license between the Dominion Dental Council and the British Medical Council.

(18) Discuss the matter of considering the Yukon a part of British Columbia for the purpose of registration in the D.D.C.

(19) What action can we take to bring British Columbia back into the D. D. C.?

(20) Notice of Motion of the Representative from Alberta,—Incorporation.

(21) Notice of Motion from the Representative from Nova Scotia—"Membership and Its Responsibilities."

(22) Notice of Motion of the Representative from New Brunswick—"Class C."

JAS. M. MAGEE, President.

Moved by Dr. Thomson, seconded by Dr. Bush, that the President's report be received. Carried.

Moved by Dr. Thomson, seconded by Dr. Clay, that the Secretary be instructed to write each Presiding Examiner, sending a financial statement showing the financial standing of all candidates and telling him that he is authorized and required to collect all the fee before he allows a candidate to write, or be satisfied that such fee has been paid. Cheques are not to be accepted in payment of fee. Application blanks must in future carry such information above. Carried.

Moved by Dr. Clay, seconded by Dr. Bush, that those candidates (class D) who failed on their clinical examination held in Edmonton June 1924, be required to satisfy Dr. Doyle, who acted as Examiner, of their fitness to pass and to receive the D.D.C. Certificate, before such Certificate is issued to any one of them. Carried.

Moved by Dr. Thomson, seconded by Dr. Clay, that section 54 of the constitution be amended by striking out the word "watchers" where it occurs therein and adding to the section: "where more than 20 candidates present for written examinations, a further allowance shall be made for extra watchers"; and that said section be further amended by adding thereto the words "the clinical examination shall be conducted by the Presiding Examiners"; and that section 54 be struck out. Carried.

The vote being unanimous, the President declared the constitution amended accordingly.

Afternoon Session August 7th, 1924

Minutes of previous session read.

Moved by Dr. Bagnall, seconded by Dr. Clay, that the minutes be adopted as read. Carried.

Moved by Dr. Bush, seconded by Dr. Clay, that sub-section E of section 45 be amended by adding "and he may be prohibited from writing any further examinations if the Executive so decide." This being an amendment to the constitution, vote was taken, and carried.

The vote being unanimous, the President declared the constitution amended accordingly.

Moved by Dr. Clay, seconded by Dr. Magee that the application form for classes "A" and "B" be altered by removing therefrom the words "Proof of Age." Carried.

Drs. Thornton and Ryan were present as representatives from the committee on Legislation and Education of the C.D.A. A lengthy discussion on these subjects took place.

Moved by Dr. Clay, seconded by Dr. Bagnall, that the constitution be amended by repealing section 32. Carried.

The motion being carried unanimously, the constitution was declared amended accordingly.

Morning Session August 8th, 1924

Moved by Dr. Bagnall, seconded by Dr. Bush, that the minutes be adopted as read. Carried.

The correspondence regarding the cases of Drs. Stoddard and MacLeod, Mann and Layng and Howden was read.

Moved by Dr. Bush, seconded by Dr. Clay, that the action taken in the above cases be approved of. Carried.

Moved by Dr. Clay, seconded by Dr. Bush, that sections 27 and 28 be repealed and the following substituted therefor:

Section 27:—Professional examinations class "A" written examinations.

Candidates in this class for Certificates of qualifications of the Dominion Dental Council will be required to pass a written examination upon the following subjects:

(a) Operative and Preventive Dentistry.
(b) Prosthetic Dentistry, Crown and Bridge Work and Orthodontia.
(c) Materia Medica and Therapeutics.
(d) Pathology and Bacteriology.
(e) Anatomy.
(f) Physiology and Histology.
(g) Medicine and Surgery.
(h) Anaesthetics.
(i) Physics and Chemistry and Metallurgy.
(j) Jurisprudence and Ethics.

Section 28:—Clinical Examinations.

Clinical examinations shall be as follows:

1. Operative Dentistry

(a) The insertion of one gold foil filling.
(b) The insertion of one gold inlay.
(c) The insertion of one proxemo and acclusial amalgam filling, of proper contour and carving of acclusial surface.
(d) Examination of patients, diagnosis suggestions of treatment of root canals, and preventive treatment, as directed by the Presiding Examiner.

2. Prosthetic Dentistry

(a) The presentation of One Porcelain Crown with cast base.
(b) The presentation of a bridge, one abutement of which shall be a cast three quarter gold crown or Carmichael Inlay.

(c) The presentation of one case of full upper and lower dentures on vulcanite bases, articulated.

3. Orthodontia.

Making diagnosis in Orthodontia suggesting treatment, including appliances and how to retain teeth when reduction is complete The candidate may construct the presentation work at home, but must furnish a statutory declaration stating all the work has been done by himself; and, in connection with bridge work, must present a cast showing the conditions existing before the work was done. Should the Presiding Examiner so decide he may order the presentation work to be done again in his presence. Each candidate must supply his own patients.

This being an amendment to the constitution, vote was taken. Carried. The constitution was then declared amended accordingly.

Moved by Dr. Clay, seconded by Dr. Bush, that section 30 be amended by striking it out and substituting therefor the following:

"Candidates for examination under class 'D' will be required to pass in the following:

(a) Operative and Preventive Dentistry.
(b) Prosthetic Dentistry, Crown and Bridge Work and Orthodontia.
(c) Materia Medica and Therapeutics.
(d) Pathology and Bacteriology.
(e) Medicine and Surgery.
(f) Anaesthetics.

The clinical examination in class 'D' shall be the same as in 'A'."

This being an amendment to the constitution, vote was taken. Carried. The constitution was declared amended accordingly.

Moved by Dr. Bagnall, seconded by Dr. Bush, that the Secretary be instructed to alter the notice sent to the Examiner, instructing him to set the paper. The notice as altered to inform the Examiner that he will be required to ask a sufficient number of questions in each section where the subjects are grouped together, to give the candidate a full and fair examination in each section. The values of the paper on "Prosthetic Dentistry and Orthodontia" shall be seventy-five in Prosthetic and twenty-five to Orthodontia. The Paper Chemistry, Physics and Metallurgy, the values shall be fifty, twenty-five and twenty-five respectively. Carried.

Moved by Dr. Bush, seconded by Dr. Clay, that a note shall be printed on each examination paper informing the candidate that he must make a pass in each section in every grouped paper. Carried.

Correspondence with the British Medical Council was submitted.

Moved by Dr. Bush, seconded by Dr. Bagnall, that the Secretary be empowered to continue the correspondence and submit same to the Executive. Carried.

Dr. Clay having given notice to amend the constitution, moved "that we provide that the Dominion Dental Council of Canada be incorporated in the Dominion Dental Council."

Dr. Cowan moved an amendment, seconded by Dr. Thomson, that Dr Clay be appointed as a committee of one to continue an investigation into the matter of incorporation, and report at the next Council meeting. Carried.

Friday Afternoon, August 8th, 1924

Dr. Magee having given notice to amend the constitution, moved as follows:

"All those who on the first day of January, 1905, were holders of valid and unforfeited Certificates of License in any of the Provinces of North West Territories entering into the agreement, and have been in Regular, Legal, and Ethical Practice of the profession of Dentistry in any of the aforementioned Provinces or Territories for a period of ten years prior to the date of application, shall upon making application to the D.D.C. present the following evidence in the form required:

(1) Registration in some province or N.W.T. of the Dominion of Canada.

(2) Regular. Legal, Ethical practice in Canada for ten years prior to application.

(3) Produce evidence of good moral character."

This being an amendment to the constitution, vote was taken. Carried.

The constitution was declared amended accordingly.

Moved by Dr. Thomson, seconded by Dr. McGuire, that the constitution be amended by striking out all references to class "B" wherever they occur. Carried.

Moved by Dr. Bush, seconded by Dr. McGuire, that No. 3 of section 36 be amended by adding the words "or more" after the word "two" where it occurs in the first line thereof.

As this was a constitution amendment, vote was taken, and carried.

Moved by Dr. Bush, seconded by Dr. Clay, that Section 36 be amended by adding to the enquiry forms sent to Ethical practitioners, the following questions:

(1) In your opinion, has he during the period of your knowledge of him conducted his practice in an up-to-date manner, and Ethically?

(2) Does he take an interest in Dental Societies and attend conventions?

(3) Is he looked upon as an equal among the dental practitioners in his province?

This being an amendment to the constitution, a vote was taken. Carried.

The constitution was declared amended accordingly.

Moved by Dr. Thomson, seconded by Dr. McGuire, that the last paragraph of article II of section 38 be repealed and the following substituted therefor:

"And I hereby agree, that if, in the opinion of the Dominion Dental Council of Canada, I shall have at any time violated this undertaking and agreement, I will surrender the Certificate of Qualification and all rights and privileges granted me by the said Dominion Dental Council of Canada, and all rights and privileges I may have obtained from any provincial board by virtue of the D.D.C. of C. Certificate, and that my name shall be removed from the Register of the D.D.C. of C. and from the Dental registers in which I have obtained registration through holding said D.D.C. Certificate."

This being an amendment to the constitution, vote was taken. Carried.

The constitution was declared amended accordingly.

Moved by Dr. Thomson, seconded by Dr. McGuire, that agreeing provinces be requested to obtain provincial legislation requiring candidates who register under the D.D.C. Certificate of Qualification, to make the same statutory declaration regarding their provincial License as contained in section 58 of the constitution and bylaws of the D.D.C. Also to obtain legislative authority to revoke provincial license in cases where provincial registration has been obtained by virtue of the D.D.C. Certificate, and this code of Ethics has been violated. Carried.

Moved by Dr. Clay, seconded by Dr. Bush, that the Dominion Dental Council recognize the University of Alberta, dental department, for the full term of years of dental study required from its students, said recognition to continue provided Alberta remains an agreeing province. Carried.

Moved by Dr. Cowan, seconded by Dr. Clay, that the Secretary write the University of Alberta, drawing their attention to the fact that the D.D.C. recognizes for final examination, only those Dental schools located in agreeing provinces. Carried.

Moved by Dr. Thomson, seconded by Dr. McGuire, that the Secretary be instructed to write the Secretary of each incorporated Dental Body in the agreeing provinces, asking them to discuss the question of establishing a central examining body to displace the provincial examining bodies, and to instruct their representative so that we may be able to deal with the subject at our next session. Carried.

Moved by Dr. Thomson, seconded by Dr. Clay, that agreeing provinces be requested to defer the adoption of an additional pre-dental year and that the Dental Schools be asked to agree upon a standard of education before the adoption of an extra pre-dental year by any one province. Carried.

Dr. Thomson having given notice of motion to amend the constitution, moved as follows:

"Resolved that the membership of any Province in the D.D.C. of C. shall commence upon the date of the first regular biennial meeting after it has elected a representative, and shall continue at least until the next regular biennial meeting. Proper notice (to be determined) of the withdrawal of any province must be sent to the Secretary. A province must agree to accept the Certificate of all persons who secure them, before and during the time of their membership in the Council. Also the Certificates of all persons who have taken partial examinations while a province is a member of the D.D.C. and who subsequently completes them."

Dr. Clay, seconded by Dr. McGuire, moved an amendment to the motion as follows:

"Notice of withdrawal by any province from the D.D.C. must be sent to the Secretary of the D.D.C. by registered mail and published in one issue of the Canada Gazette, the same to take effect three months from the date of the appearance in the Gazette."

Moved by Dr. Bush, seconded by Dr. Bagnall, an amendment to the amendment as follows:

"That the word six be substituted for the word three, where it occurs in the proposed amendment."

Vote was taken on the amendment to the amendment. Carried.

The constitution was declared amended accordingly.

Moved by Dr. Thomas, seconded by Dr. Bush, that a full report of the position and business of the D.D.C. be presented to the C.D.A. at its next meeting by the President of the D.D.C. Carried.

The election of officers for the new term resulted as follows: President, Dr. McGuire, elected unanimously; 1st Vice President, Dr. Clay; 2nd Vice-President, Dr. Bush; Secretary-Treasurer, Dr. Cowan.

Moved by Dr. Bush, seconded by Dr. McGuire, that the Secretary be instructed to pay the money voted at the last meeting ($600.00) for research work, as soon as funds will permit. Said money to be sent, one-half to the R.C.D.S. and one-half to Dalhousie University. Carried.

Adjournment.

## REPORT OF THE SECRETARY, AUGUST 1924

President and Representative of Dominion Dental Council.

Gentlemen: Since last we met all the examinations have been held at the time required. The summary of these examinations is as follows:

Examination June 1922—143 Candidates; 637 papers; 106 Clinical examination. 15 failed as follows: 4 Medicine & Surgery (1 re-read and passed); 10 Physiology and Histology; 1 Prosthetic Dentistry and Metallurgy; 35 passed their final examination.

Examination September 1922—99 candidates; 229 papers; 6 clinical examinations. 7 failed as follows: 5 Anatomy; 1 Physiology and Histology; 1 Materia Medica and Therapeutics; 6 passed their final examination. 1 class "D" candidate wrote and passed.

Examination October 1922—supplemental—1 candidate, 1 subject; passed.

Examination May 1923—largest class we have ever had, subjects once more divided—256 candidates; 1464 papers; 296 clinical examinations. 45 failed as follows: 11 Anaesthetics (1 re-read and passed); 7 Physiology and Histology; 1 Metallurgy (1 question on this paper, not a fair test); 6 Pathology and Bacteriology (1 re-read and passed); 12 Medicine and Surgery (2 re-read and passed); 8 Anatomy. 107 passed final examination. 1 class "D" candidate wrote and passed.

Examination September 1923—74 candidates; 184 papers; 2 clinical examinations. 7 failed as follows: 1 Bacteriology; 3 Anatomy; 2 Medicine and Surgery (1 re-read and passed); 1 Pathology and Bacteriology; 16 passed their final examination. 1 class "D" candidate wrote and passed.

Examination June 1924—151 candidates; 677 papers; 56 clinical examinations (partial report only from R.C.D.S.). 19 failed as follows: 2 Anatomy; 1 Anaesthetics; 1 Pathology and Bacteriology; 2 Materia Medica and Therapeutics; 1 Physiology; 1 Histology; 2 Physiology and Histology; 2 Operative Dentistry; 3 Prosthetic Dentistry and Metallurgy; 4 Metallurgy passed final examination. 3 class "D" candidates wrote.

The grouping of Metallurgy with Prosthetic Dentistry does not seem to work well. The effect of the combination being that quite a number of candidates who are entitled to write on Metallurgy, finding the two subjects grouped on the one paper, write on both subjects, and in most cases actually succeed in getting a pass. Prosthetic Dentistry is, of course, a final year subject and they have no right to write on it before that time. I would suggest that if Metallurgy is to be a separate subject, there should be a full number of questions asked on it instead of from one to three as has been the rule.

I have difficulty in getting a concrete report from the R.C.D.S. regarding the clinical examination held there. I submit herewith a report form on which the practical report is made. The students apparently make application to the college, to have work which they do throughout the term placed to their D.D.C. credits. They must make application for each piece of work separately and invariably the report comes to me short of marks in many different pieces of work. This leads to an extensive correspondence both with the college and with the candidate before it can be determined whether or not a given candidate has passed. Evidently the requirements at the college are different from ours and I would suggest that we try and reach a common basis so as to avoid further confusion.

A number of protests against the paper set this year on "Medicine and Surgery" and "Pathology and Bacteriology" have been received. These

are submitted herewith for your perusal. The complains summarized are that some of the questions on "Medicine and Surgery" form no part in the teachings of any of the Dental Schools, and in "Pathology and Bacteriology" that the work of Dr. Box has not been placed in the text books as yet and consequently not available for full study for either college or class "D" candidates.

The classes for 1923 were by far the largest we have ever had. From reports to hand, I should judge that for the next few years we will not have as many candidates and it will be necessary to regulate our affairs to meet the lessened revenue. For the 1923 examination we accepted for the first times notes from certain of the candidates in lieu of cash payment.

Our Certificates have now all been used up and a new lot ordered. I ordered one hundred in all, and these will appear with the space for the signatures of all members of the Executive as directed by you at our last meeting. A further change has been made in ten of the Certificates, changing the gender from masculine to feminine. As a number of the old Certificates were issued to ladies, I would suggest that, wherever desired, a new one should be issued without charge to the holder.

I submit herewith correspondence with the British Medical Association of the United Kingdom. The purpose of the Association apparently in opening this correspondence was to ascertain our attitude regarding the registration of the British Certificates in Canada.

The last year has produced an exceptionally large number of charges of unethical practice against holders of our Certificates. These have been handled as firmly but as courteously as possible. I think that in all cases but one, the Unethical practice has been stopped. In the case of Dr. F. G. Mann of Halifax the Certificate was cancelled. In this connection I find our present "Code of Ethics" very inadequate, and it might be well just now to decide who has the determining of what is unethical. The last clause of our Code makes it obligatory upon someone unnamed.

I understand that the R.C.D.S. has now adopted a two-year pre-dental course. No notice of motion to amend our constitution to meet this new Ontario standard has been received, but notice should be taken of it, that a definite course may be determined.

A letter from the Alberta University dealing with the five year course has been received, and it is submitted herewith.

Notices of motion to amend the constitution have been received as follows and copies sent to all representatives.

From the Representative for Alberta:

"I give notice herewith that at the next regular meeting I will move to amend the constitution so as to provide that the Dominion Dental Council be incorporated in the Dominion of Canada.

(Signed) J. W. CLAY,
Representative for Alberta."

From the Representative for Nova Scotia:

"I hereby give notice that at the next regular meeting of the Dominion Dental Council, I will move to amend the constitution as follows:

"Resolved that the membership of any province in the D.D.C. shall commence upon the date of the first regular biennial meeting after it has elected a representative and shall continue at least until the next regular biennial meeting. Proper notice (to be determined) of the withdrawal of any province must be sent to the Secretary. A province must agree to accept the certificate of all persons who secure them before and during the

time of their membership in the Council, also the certificates of all persons who have taken partial examinations while a province is a member of the D.D.C. and who subsequently completes them.

(Signed) G. K. THOMSON,
Representative for Nova Scotia."

From the Representative for New Brunswick:

"In conformity with instructions from the New Brunswick Dental Society, I hereby give notice for action at the next meeting of the Dominion Dental Council, for amendment to the constitution providing for the restoration of the rights formerly authorized under class 'C' to read: All those who on the first day of January 1905 were holders of valid and unforfeited Certificates or License in any of the provinces or North West Territories, entering into the agreement, and have been in regular, legal and Ethical practice for a period of ten years prior to date of application, shall upon making application to the D.D.C. present the following evidence in the form required:

(1) Registration in some province or the N.W.T. of the Dominion of Canada.

(2) Regular, legal and Ethical practice in Canada for ten years prior to date of application.

(3) Produce evidence of good moral character.

(Signed) J. M. MAGEE,
Representative for N.B."

Dr. Morrison, our Examiner in Operative Dentistry, has sent in his resignation.

As you know, students at the Alberta University have been allowed to write off their first papers for the D.D.C. while attending that college. A number of these subsequently went to McGill to graduate, and, as we do not recognize the graduates of colleges in non-agreeing provinces, we are obliged to refuse these students the privilege of finishing the examination which they have started. I would suggest that we notify, in some way, the Alberta students of the situation.

I would draw your attention at this time to our constitution, which needs revision. There is no provision made for the payment of an Assistant Presiding Examiner. The constitution provides for the appointment of such Assistant Examiner by the Executive. This would be more workable if we appointed such officers to act in each province, if they were needed, as we appoint our Presiding Examiners, though doubtless just when they would be needed they would not be available. I think on the whole, it would be more convenient if this appointment were left with the Presiding Examiner. He is the only one who knows if he will need an assistant, and who in the locality can best assist him.

There have been two candidates, one in 1923 and one in 1924, who have been taken seriously ill just prior to examination, thus throwing them out a year. Both were final year candidates. They wanted some recognition of their position, but I was unable to grant it because our constitution does not provide for anything of that description. I believe the colleges do make provision for cases of this kind.

By some means the clause in our constitution which formerly provided for the re-reading of a paper has been dropped. The provision was that if a candidate failed by not more than five points on not more than two subjects, he could ask for a re-reading.

The application for class "A" should be dropped as the "students' application form" fully covers the need. Having the two forms is very confusing to the applicant and is an added expense.

The Character form should be changed. We require two persons to sign it, stating how long they have known the candidate, and have only one space for both replies.

I have mentioned the "Code of Ethics" before.

During the past two years two applications for examination, one class "C" and one class "D" have been refused, and the applicants have requested that they be permitted to appear before you. I intimated that I thought they would be granted this privilege, and submit their fyles herewith for your confidential inspection.

Dr. Lea, secretary for the B.C. Board, wrote asking for the date of the resignation of the representative for that Province. I had to inform him that I had never received any formal resignation.

In May 1923, by request of a number of B.C. students at the R.C.D.S. through Dr. Seccombe, and with the authority of the President, I arranged for an examination to be held in British Columbia. The arrangement was made with the distinct understanding that it would not necessarily be continued another year. Dr. E. C. Jones acted as Presiding Examiner.

I regret to have to report the death of two of our Presiding Examiners, Dr. A. F. McAvenney of St. John, N.B., and Dr. J. F. Guerin of Regina. The vacancy caused by the death of Dr McAvenney has been filled by Dr. F. A. Godsoe. The position in Regina is still vacant.

Respectfully submitted,

Secretary D.D.C. of C.

## TREASURER'S STATEMENT

President and Representatives
Dominion Dental Council of Canada.

Gentlemen: There are some features in connection with our financial position to which I think your attention should be called.

Twenty years ago we adopted the fees for the various classes, and those fees are the same today as they were twenty years ago. While the revenue feature has not been altered every other feature has been. The result is that our budget today is not balancing as it ought to. Our expenses in almost every department are almost double what they were a few years ago. Printing is double. Express—and there is a good deal of it—is away up. Express rates are no higher than postage. Telegrams have increased with the rest. Ordinary postage is one-third higher, and in addition there is excise postage on receipts and cheques. For our biennial meetings we have to pay enormously higher passenger and sleeping car rates. In addition to all this we enlarged the number of examination papers, which means an additional examiner to pay. We also doubled the fee for valueing papers. The additional paper meant an additional half-day for the Presiding Examiners, and then we ruled that he should be paid a full day where half a day was given. Then we raised the fee for the presiding examiners to fifteen dollars. Then we cut out the Saturday afternoons, which meant another half-day with a full day's pay for the Presiding Examiners. The fees for the Presiding Examiners amount to from seven to nine hundred dollars per examination. There are a hundred and one minor things connected with the conduct of your business which have to be bought or arranged for, and all of them are costing

twice onto the former amount. The additional day for the examination means an additional day's rent in many cases for the examination hall. Also an additional rent for the chairs and tables used. The result is that we are spending an awful amount of money. Were it not for the eleven hundred dollars we are receiving in interest we would not be making ends meet. Last year we had a very large class "A" examination and this helped us out for the time being. It was the largest class we had ever had by far, and if my information is correct, there is a very heavy falling off in the number of freshmen now at college. This will mean a decreased revenue, while our percentage of overhead will remain, and I think we ought to take this seriously into our consideration. We might, for instance, reduce the number of examination papers to ten. This would do away with one examiner. Then we could commence the examination on Monday morning and continue it right through to Saturday night. The original reason for commencing on Tuesday does not now exist except to a very limited extent, the clinical work in large part being done at the college during the college term. The written work would not start until Tuesday, so that the candidates would have all Monday to reach the examination point. As it is now, practically all of Tuesday is wasted except to class "D" men. At present the Presiding Examiners have two weeks badly broken up for private practice. The other way would clean the whole thing off in one week. By this we would save at least three hundred dollars per year, and the examiners would be better satisfied. The candidates also would save a lot of money.

If we were to require all candidates to write on both sides of the paper, the size of the pads could be reduced to four sheets. We would thus save in printing and express on an awful lot of waste paper.

Another feature I wish to draw your attention to is the very frequent habit of the candidates appearing at the examination hall and writing on one or more papers without paying the fees. This would not be so bad if they would all persist to the finish, but unfortunately, some get plucked in one or two subjects the first year and then we never hear of them again. Up to the present none have received our Certificate without payment having been made in full, but there is an accumulation of several hundred dollars against men who have appeared for examination, who did not persist, and whose whereabouts is now unknown. Quite a lot of this I am afraid will have to be written off. Of course they got nothing from us except a failure.

The National Trust Co. have paid the interest on the $21,000.00 invested in Victory Bonds with pleasing regularity. The amount half yearly is five hundred and forty-one dollars and forty-eight cents ($541.48). The next cheque will be due in about two months.

At our last meeting we had $2,869.97 in the bank. Our total income since then has been $10,327.00. We have chequed out $9,899.17, which included $2,063 for the last meeting of the Council. The fees paid the Presiding Examiners amounted to some $2,932, not including two of them for the last examination. The Examiners were paid $1,442.00, which does not include the recent examination. Printing has cost nearly $1,000.00.

Your Secretary's salary of five hundred dollars per annum has been paid up to the 4th of September of last year. Express, telegrams, postage, exchange on candidates' cheques, and other petty expenses amount to several hundred dollars. Heretofore I have paid this out of my own pocket and at the end of two years was reimbursed. They are so heavy now that I find it rather too big a load to carry.

The students persist in sending in cheques without exchange. We have had a stamp made, and stamped the correspondence calling for pay ment at par at Regina, but it has had very little effect. If we refuse to accept cheques at all except from our Presiding Examiners, it would harm nobody. They would then all have to pay exchange.

Our "statement of claim" should be changed so as to avoid the danger of getting all our creditors into conflict with the Excise Department.

The amount of money in the bank at present is $3,000.00.

Notes to the value of $2,180.00 are still held against the returned soldiers. A number of these have been paid, and the balance is now almost due.

The fees for the June examination are coming in very slowly. A large number of those who took the final have not yet paid, but will have to soon, because they cannot get their Certificate until they do.

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## Dentistry in the Laurentide Health Service

The Laurentide Health Service's dental clinic is located in an apartment in the Laurentide Power building loaned by the power company for the purpose. The room is entirely glass on one side and hence beautifully lighted, naturally, in addition to the artificial lights. The equipment is that of the usual dental surgery, minus those pieces of apparatus which have no part in the purely prophylactic work which is carried on. The clinic is in charge of Miss Aline Nelson, a young woman trained in dental hygienic work at Forsythe dental, a school attached to Tufts College, in Boston, and who has had experience in this kind of work in various places in the United States.

The Laurentide employees are sent by their foremen, one every half hour, to the clinic. The only work done in the clinic is as outlined above, an examination of the mouth to see the condition of the teeth, a thorough cleansing of the mouth and teeth and where pyorrhea has set in, treatment for pyorrhea is given. The condition of the mouth is charted and where there is work for the dental surgeon indicated the man is urged to go at once to some dentist of his own choice and have the work done. Where the condition of the mouth necessitates more than the first half hour's work the man is given another appointment, as all the work is done on the Company's time and no man is kept away from his work more than half an hour at a time. The dental hygienist gives each man, whose mouth indicates that he needs the advice, some elementary instruction in keeping his teeth clean and in correct use of a toothbrush.

The recommendation of the hygienist to have work done by a dental surgeon is carefully followed up by the Laurentide Health Service organization. In this way five thousand dollars has been spent on dental work for Laurentide Employees in the twenty months the clinic has been in existence. This figure includes only the money spent for those employees who are wage earners and at the same time members of the Laurentide Mutual Benefit Association. These men choose their own dentist and have the work done. They are however only called upon to pay one-third of the bill. The Laurentide Mutual Benefit Association pays one-third of the bill and the Laurentide Company itself the remainder. No financial help is given those employees who are not members of the L.M.B.A. and

the members of this association have thus been saved about thirty-two hundred dollars in their dental work in the last twenty months of which the Laurentide Mutual Benefit Association itself paid $1,600.00.

Salaried employees who are members of the L.M.B.A. may secure from this association the same assistance in dental work.

In the twenty months the clinic has been in existence there have been 3,253 treatments in the clinic or an average of 160 per month. These are all half hour treatments and to some extent the same man has had two or even three treatments where the case warranted it. Practically every wage earner has been treated once, however.

Up to the first of October, 1924, the dental work done by the regular surgeons of the city at the recommendations of the clinic has consisted of 1,233 fillings, 420 extractions and 130 dentures (bridges, plates and similar work).

Every man who comes to the clinic who needs instruction in the use of a toothbrush, gets it from the hygienist and the Laurentide Mutual Benefit Association supplies its members with toothbrushes at nominal rates. Since this supply of toothbrushes has been available every man whose previous acquaintance with a brush was limited has taken one.

## Victoria Dental Society Hold Clinic

During the afternoon a clinic was given in the medical society's library by Dr. E. G. Smith, New Westminster.

At six o'clock a banquet was served at the Pacific Club, and the serious part of the clinic was resumed later in the evening with the reading of a paper by the clinician. This was followed by a demonstration of cast-gold and swaged plates, showing, in a way which was convincing to most of those present, that of all methods of artificial dentive construction a gold base was the most efficient and practical way of adapting teeth to the mouth.

The proceedings did not conclude until a very hearty vote of thanks had been passed to Dr. Smith and others who helped to make the occasion the great success it proved, and the executive and members of the local society expressed the hope that clinics of this nature would be held oftener.

Those present at the dinner were: Dr. H. LeRoy Burgess, Dr. W. J. Bryce, Dr. W. F. Fraser, Dr. F. A. Griffiths, Dr. W. H. Gunning, Dr. Lewis Hall, Dr. H. H. Hare, Dr. J. Harper, Dr. H. J. Henderson, Dr. E. W. Hetherington, Dr. A. A. Humber, Dr. C. H. Harding, Dr. A. G. Lough, Dr. R. E. McKeon, Dr. A. McInnes, Dr. S. Miles, Dr. Mess, Dr. R. Nash, Dr. Nichells, Dr. A. Poyntz, Dr. W. Russell, Dr. A. H. Tanner, Dr. J. L. Thompson, Dr. Westwood, Dr. Youlden, Dr. M. Gibson and Dr. Gillis.

The address of welcome was delivered by the president, Dr. Charles Harding, and toasts and responses were as follows: "Our guest and clinician," proposed by Dr. Lewis Hall, responded to by Dr. Frank Smith; "The Victoria Dental Society," proposed by Dr. W. N. Gunning, responded to by Dr. R. E. McKeon, past president.

# Editorial

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## Dental Research and a Bureau of Information

In this issue appears a report of the researches on filling materials by the Research Department of the University of Toronto, conducted over a period of five years. The work has been checked over again and again during this period and is still being continued. The results will have a far-reaching effect in many departments of dental practice. It contains the very kind of information the profession is calling for. Based upon these findings several dentists have been conducting clinical observation for the past three years, completely verifying the findings of the laboratory.

In this issue we also publish an unsolicited letter from one of our readers asking for the very kind of information found in the report. As the writer of the letter goes on in discussing the matter he admits the difficulty of finding any organization which could stand up to the criticisms levelled at it if it undertook to report its findings. The American Medical Association maintains a staff to do the very thing our correspondent asks dentists to do. The operations of the American Medical Association have been attacked from all sides, commercial, professional and ethical alike. Until dentistry is sufficiently strong to go ahead on a well-founded basis it must remain as it is, dependent upon individuals and outside organizations to do its research work. The unfortunate thing is that researches in any department of dental products takes so long that the public and profession have suffered and lost before reports can be made public. No half-baked stuff can come from a dental bureau of information.

An authoritative statement on all new and many old products is a crying need in dentistry but who can make it? who should make it? Our correspondent is to be commended for making so many suggestions anent the question.

## The Dental Forum

Another dental magazine has made its appearance in Chicago. The editor, Dr. Thomas, is one of the outstanding researchers in dentistry. The magazine under his guidance ought to prove a suitable means of expression for research work as well as for those in general practice in the central west. The chief difficulty in conducting a magazine without the business end being cared for by business people is that it costs too much in time and energy of the editor. We welcome Dr. Thomas and the Dental Forum in the field of Dental Journalism.

## Notes

The form of dental initiation at the R.C.D.S. is to be modified.

Dr. J. B. Morrison, Montreal, died after a brief illness, December 8th, 1924.

The school board of Victoria, B.C., appointed a committee to investigate the problem of school dental service.

Dr. J. N. Stewart, Hamilton, gave a demonstration on porcelain to the local dental laboratory association in December.

Dr. Elmer Wright, Calgary, has given up practice and Dr. Zimmerman of Taber, Alta., has taken his place.

Dr. James McPherson, Edmonton, and J. G. Roberts, supplied the programme for the December meeting of the Edmonton Dental Society.

At a meeting of the Ontario and Durham Counties Dental Society, November 28, Drs. H. K. Box and W. Neill gave an address on periclasia.

Ottawa Dental Society held its first monthly meeting for the season October 21st, 1924. Dr. J. A. Bothwell, Toronto, was the clinitian for the meeting.

Drs. George K. Thompson, W. H. S. Gray and Oxner, gave a discussion of porcelain in dentistry at the regular November meeting of the Halifax Dental Society.

The Canadian dental profession mourns with Mr. H. P. Temple in the sudden death of his son, Edmond Temple, who was killed in a motor accident on upper Yonge Street, Toronto.

The "Sunday World" of Toronto has a full page devoted to dentistry. The stuff is rather well written and though several dentists took part in supplying the matter, none of their names appear.

Dr. Claude Fowler, Colborne, Ont., R.C.D.S., 1904, died suddenly in a drug store December 18th, 1924. Doctor Fowler had practised in Toronto and Huntsville, besides serving for some years in the army.

A Dr. Henry George Augustine Smith has been detained at the booking office at Vancouver for identification. It appears a Dr. Smith, of London, England, has forged and gotten away with $30,000.

The first monthly meeting of the Edmonton Dental Society was held at the McDonald. The president, Dr. L. V. James was in the chair. Dr. Leslie McIntyre and Dr. Henry Gilchrist were the speakers of the evening.

There is an annual dental exhibition in London of the newest dental appliances.

The continued education of the graduate dentist is of as much importance as the education given for graduation.

Dr. F. F. Baker, London, Ont., was the hero in rescue work in a fire which destroyed his office and living apartments.

The St. Boniface Kiwanis Club, Winnipeg, put on an old time fair, the profits of which were given to establish a free dental clinic.

Dr. W. E. Harper, Chicago, the exponent of amalgam manipulation, demonstrated and lectured to the Hamilton Dental Society, December 11th, 1924.

"The importance of restoring a perfect circulation in the lymphatic channels and nodes following infectious diseases, to insure healthy gums and normal tissues around the roots of the teeth, is obvious. Perfect circulation assures normal gums, provided the dentist has determined and established a normal co-ordination of the teeth in relation to contact," said the doctor.

The Laurentide Dental Clinic at Grand-Mere, Quebec, is a new era in industrial dentistry. The cost of services being divided equally among the employer, workmen and the organized health service. A dental hygienist makes the examination, does the oral prophylaxis, gives instruction in oral hygiene at the works and advises the patient to consult a regular dentist when required.

"The 'kernels' occasionally suppurate after becoming blocked beyond a point of possible absorption of retained fluids. More often they become indurated and remain hardened for years without suppurating thus blocking the downward flow of lymph into the terminals. The blockage resulting from accumulated toxic products during the infection period prevents proper drainage of the lymph in the channels and through the filter nodes or 'traps,' and eventually a pyorrheal condition becomes noticeable.

At the osteopathic convention, now in session in Toronto, Dr. F. P. Millard said yesterday that "pyorrhea has its beginning usually 30 years before it becomes noticeable"; that "infectious disease of childhood, associated with febrile symptoms, result in a more or less permanent blockage of the lymphatic channels and glands just beneath the jaw or mandible." "The nodes or glands in the neck enlarge (cervical adenitis) following measles, chickenpox, diphtheria, scarlet fever, mumps and even tonsilitis," he continued.

During the past two or three years the general facts of the research work reported in detail in this issue have been presented to many Canadian dental societies and gatherings. Sufficient work has been done in the matter to warrant a complete statement. A Toronto daily paper published what they intended to be a review of the report but turned out to be a reporter's story of deductions that might be made from the report. This unauthorized story did not emanate from the research laboratories, or anyone connected therewith. The inaccuracies in statement and deduction at once brand the article as coming from unscientific sources. It was written for attractive reading to the public and made no attempt to review the report except in one particular.

It is particularly annoying to scientific workers to have their efforts treated in the vein of public amusement. It is hoped that the extravagant claims made in the press may not prevent anyone from a careful examination of the facts presented.

A stainless steel hypodermic needle has been invented.

The Academy of Dentistry, Toronto, have appointed an Oral Hygiene Committee under the Chairmanship of Dr. George Grieve. Some years ago the Oral Hygiene Committee of the old Toronto Dental Society did a lot of good work. Since their disbandment the work in Toronto has been carried on by the Oral Hygiene Committee of the Ontario Dental Society. Dr. Grieve is a man of energy, and also experience in that he was for a number of years chairman of the Oral Hygiene Committee of the C.O.P.A., when that organization was doing so much good work all over the Dominion.

## Press Report Regarding Copper Amalgam

The following resolution was adopted by the Executive of the Faculty Council of the Royal College of Dental Surgeons of Ontario to be forwarded to the Associated Press and the dental journals:

The Royal College of Dental Surgeons of Ontario wishes to state that it disclaims any knowledge of or responsibility for the statements recently made in the public press regarding the merits of copper amalgam as a root canal filling.

## CORRESPONDENCE

A DISCLAIMER

Editor Dominion Journal.

Sir: We beg leave to disclaim all responsibility for the article which appeared in the daily press purporting to be a review of work which was done in the Department of Dental Research, University of Toronto, on Dental Fillings, and which is reported in the current number of your journal.

The article which was published in the press made most extravagant and misleading statements for the value and importance of the work and was unauthorized and contrary to our wish.

C. JANE FRASER.
HARRY S. THOMSON.

Dear Dr. Webster:

It was very disappointing to me not to find any explanations in your November issue of the Dominion Dental Journal regarding the "Burning Sensation in the Tongue" query of your Ottawa subscriber.

I had looked forward to seeing some sort of reference as to the causes and treatment of such a case because of two reasons:

Firstly, I have had a case of a somewhat similar nature, and secondly because I wanted to see what practitioners older than myself (I am a '24 graduate) had to say concerning it. Although I had found a successful treatment for my case, still I was more or less timid to write to you, a man much more experienced than I, regarding it.

However, seeing that "Fools rush in where angels fear to tread," I shall continue with my case history and its successful treatment.

A man about thirty years of age consulted me to have a lower bicuspid removed. Upon observing the patient as he was sitting in

the chair, I came to the conclusion that he was an alcoholic, that he belonged to the poorer class of people, but that his mentality, for such a type, was above the average .

As I was infiltrating the tissues around the area of the tooth to be extracted, the side of his tongue touched the barrel of the syringe and he winced. Upon inquiring as to his reason for so doing, he told me that I had started a burning sensation in his tongue, which he had been having for some years.

By the time I had removed the tooth, the burning tingle had subsided a little. He further related to me that the pain was sometimes brought on when he spoke very quickly or when he ate his meals hastily. Suspecting that perhaps all this was caused by pressure upon the nerve endings by some hidden root. I asked him to allow me to take an X-ray of a certain area where a molar had been extracted quite a long time ago. This he would not do, so I painted that part of the tongue with iodine and dismissed him.

Feeling quite sure that he would return, I meanwhile began to search in the text-books on Oral Surgery for a reference to such a case.

The patient did come back. I took an X-ray and discovered a very small piece of root under the gum, but it did not seem to be imbedded deeply enough to cause pressure upon any nerve fibres which would indirectly cause the burning sensation.

The particle of root was removed and the patient said he felt much better but I believe that that was from a psychological point of view, due to his state of mind.

I then told him about the possibility of injecting alcohol to stop the burning sensation and he agreed to let me try it the following day, if the pain recurred.

He came the next day and informed me that, although the pain was not very great, he would permit me to try the injection of alcohol.

Performing a mandibular injection to catch the lingual nerve, I must also have succeeded in desensitizing the interior dental nerve because the patient left feeling as if his mandible up to and about the bicuspid or cuspid area on the side of the injection "Was made of wood."

Since the patient has never returned I suppose that the treatment was successful and since he still owes me the money for performing the operation, I think I will never know how successful it was.

The following is a quotation from "Blair's Oral Surgery" in reference to this case.

*Glossidina Exfoliata.*

"This is a form of superficial glossitis closely related to neuralgia of the tongue which generally appears in poorly nourished, anaemic, or neurotic women. It is characterized by red spots or streaks which are to be observed by separating the papillae and a burning pain that may be very severe. The pain is usually brought on by eating or by continually speaking. The condition is chronic but has quiescent periods. Heretofore the treatment has not been a success. The application of increasing strength of AgNo3 gives relief by forming a protecting pellicle. The cautery has been recommended with the object of destroying the nerve ends." If such a case was to come under my observation now, I would try an injection of alcohol to bend the lingual nerve.

Hoping that I have not been too lengthy in the discussion of this case, I wish to remain, Sincerely yours, *SAMUEL W. LESLIE, D.D.S.*

Editor, Dominion Dental Journal,Toronto, Ont.
Dear Doctor Webster.

Re "Burning Sensation in Tongue" in October Journal.

This case seems very similar to one I had some years ago when practicing in Brantford. The patient, a man sixty years of age, came to me to have the lower right posterior teeth out on account of pain in his tongue where it touched against these teeth.

Three and one half years later I was called to this patient's house to extract more teeth, when I took the anterior teeth out to the left bicuspid to relieve the pain when the tongue came in contact with them.

These teeth were in good condition, not broken or decayed.

The patient told me the tongue had a cancer which started at the base on the right side and gradually grew towards the tip. He suffered considerable pain but I do not remember of his complaining of a burning sensation in the tongue. He could articulate very clearly and so far as I could see, I could not detect any difference in the appearance of the right or left sides. The poor fellow died about three months after my last extraction from the effects of this cancer. I am, yours sincerely,

*J. B. LUNDY.*

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## A Bureau of Information

A. E. Webster, M.D., D.D.S., M.D.S.,
Editor, Dominion Dental Journal.

Dear Doctor Webster:—There seems to be a great field of unexplored, or unpublished, dentistry, if I may be permitted to express myself.

Frequently we receive literature from different dental and medical manufacturers, each one boosting their respective products, sometimes to the distinct detriment of all others. This applies from tooth-pastes and mouth-washes to porcelain restorations, so that scarcely one dentist in a thousand knows absolutely what each article he uses will do, or why he does it.

Through personal or impersonal motives we are influenced to purchase something different, some article offering new (or previously unclaimed) attractive properties of exceptional merit, and sometimes going so far as to tabulate a comparison of it with other similar preparations of possibly more popularity, of course to its advantage.

Are we required to accept these comparisons and figures? We know that sooner or later a representative from one of the other firms will call on us and absolutely convince us that we were several different species of the finny tribe for being roped in by such a flimsy argument. When we approach the best source of instruction and information, the R.C.D.S., for knowledge pertaining to these vexatious problems (for we all want results favorable to our work and desire to use agents conducive to same) we are met with a distinct aversion for expressing any views on the subject, knowing that they might be called on to answer for such views by some affected firm.

What are we to do? We know that if we write to every firm that makes a silver alloy and ask them how their product stands up in use, compared to the others, in regard to expansion and contraction, crushing strength, resistance to flow, pitting, washing away, etc., every one of them will give us definite and precise reasons for placing explicit confidence in their tried and tested product.

It is readily granted that some prominent dental manufacturers are utilizing extensive research laboratories and are undoubtedly trying to produce products of required characteristics, as they find them. But do they see our end of it, and are they in a position to determine the required characteristics? In reference to this, some time ago I reviewed several booklets from a prominent firm pertaining to their cements. They have certainly gone into the subject very systematically and extensively, so that any dentist reading them will derive a great deal of benefit from them and will be enabled to employ his cement (whether of this manufacture or otherwise) to much better advantage. We can always obtain useful information from reading any article on any subject, for no two people in the world could possibly express their views identically, providing such views were identical. Therefore these books are valuable to a dentist, but are they valuable enough along necessary lines? In one of their tests, no doubt, with a good reason or else they would not have done so, they placed the cements in oil for fifteen minutes after mixing, and then transferred them to mediae of saliva to represent the conditions found in the mouth. The tests were then carried out at intervals and the results charted.

Now why the oil? Are we to infer from that that when cement is used in a tooth it should be submerged in oil for fifteen minutes? Or the very least we could determine, does it have to be kept dry for that period? I have witnessed a clinic in our college where cement was put into a cavity and pressed to place with a pledget of cotton dipped in water. What characteristics has this cement when so used? Would not a charting of tests under similar conditions be of interest when compared to dry conditions? As far as this test goes as conducted, it means nothing to me for I have never kept a cement filling submerged in oil for fifteen minutes, and never intend to. At no time do I recall them placing a cement in saliva or water immediately after mixing.

We also want to know, not by the manufacturers telling us, but through the activities of some distinctly impartial investigator, the merits of other preparations, such as pulp cappers, preservers, devitalizers, root-canal fillers, pyorrhea preparations, tooth pastes (how many dentists know which is really the proper tooth paste to recommend and why?) mouth washes, irritants and counter irritants, porcelain restorations, and a thousand and one other questions persistently demanding an answer. Is it true that this plastic porcelain does not devitalize the pulp beneath it, or that this other one gradually takes on the color of the tooth into which it is inserted?

Every dentist should be able to ask these questions and know positively that he would receive a definite and unbiased answer from someone who has made comparative tests of their physical and chemical properties under all conditions demanding it, and who is not in fear of being taken to task for expressing his findings.

I readily see why the Dental College is in an unfavorable position to offer this service, but cannot the Academy of Dentistry, or some other organized or unorganized group of dentists finance the maintenance of such a research laboratory of invaluable information? If there are many preparations on the market of so near identical qualities that the use of any one of them will satisfactorily meet with all requirements, we would appreciate the information, for this is far better than complete obscurity and is well worth the expenditure. Would not such a source

of information be immune to any criticism by affected manufacturers because it would be doing it in the interests of those financing it, just the same as if each dentist conducted these tests for himself and was governed by them?

I realize that this is a great big problem, one of the biggest, if not the biggest, in dentistry, but are we not equal to it? Because of the peculiar position of the dental profession in having to use so many things of such definite and yet diverse requirements, we should be protected from using questionable, inferior, or positively harmful substances, and until such a move is made by the profession I am afraid that we are designed to be, to a certain extent, puppets of the manufacturers. To be such of some manufacturers possibly would not be to one's disadvantage, but which one shall we choose if forced to do so?

Possibly a bureau could be established under a grant from the university or government, something similar to the Bureau of Standards of the United States, and maintained perpetually in the interests of Dentistry. Surely we as dentists are doing enough good in this country that our endeavors should be appreciated to this extent and an encouragement and aid given us to serve the country still better. Such a bureau, possibly composed of representatives from different colleges, could issue an official volume for dentistry similar to that issued for drugs by different countries and known as the "British Pharmacopeia, U.S.P., etc.", and in it all articles of required characteristics that are used in dentistry would be recognized and their formulae published. This would include everything from temporary cement to living requirements. It is very important for drugs, why not just as important, or more so, for dentistry?

Dental hygiene information should be published regularly for the benefit of the nation. Diet is of primary importance, for the present method of living is certainly demanding the services of more dentists, physicians and surgeons. If the medical profession does not carry on a general course of instruction to the public through the newspapers the dental profession could show them the way, to everyone's advantage, for the food requirements and mode of living essential to dental health are also unquestionably essential to general health, and vice versa. It is fast becoming too evident that one cannot be true without the other.

Yes, this is a big problem, but until it is satisfactorily met, dentistry cannot be what it should be.

I know there are certain sects at work publishing instructive information of distinct value to those who accept of their teachings, but too frequently they are accused of selfish interests. If similar instruction were given out by a bureau provided for by the government (the representatives of the people themselves) it would carry more weight and be of much more value generally. Besides with the government's backing it would not seem such a hopeless and impossible task. All living conditions and food requirements would be subject to a close inspection, and local and general influences would of necessity be improved. Would not such a universal benefit warrant the cost of such a bureau?

The subject gets bigger, but the bigger it gets the more obvious is its value. This letter is merely a note compared to the requirements of the subject.

So much difficulty would not be experienced in inducing dentists to attend lectures, clinics, and conventions, for each one would realize the

great benefit and importance in keeping up-to-date with their work and abreast with the times, especially when due publicity is given and they are daily required to answer questions pertaining to the published information.

I do not wish to belittle in any way the wonderful services and discoveries given to the profession by the manufacturers. Were it not for them, dentistry would indeed be in a sad predicament. Also I would not want to discourage future revelations and developments brought about by their research work, and do not think that such a bureau would antagonize them, for if they produced something of real benefit its value could readily be determined and the article endorsed by the bureau. Such a thing could then be accepted by the profession without question and the manufacturers would really be benefitted as well. They should not object to such a bureau, at least those of them that are really trying to better the profession, and we all would dwell in better harmony and co-operation.

Just an example. The subject of root-canal work could be thrashed out. If such a preparation as Osogen is going to eliminate infection in this field and actually rebuild healthy bone about the roots of teeth after such a simple and short technique, when teeth had previously been treated for weeks to their final sacrifice or failure to eliminate infection, then it should be given the strongest support by the best authorities of the profession. Such a thing is no more impossible than many other wonderful things of seeming impossibility years ago.

Obviously such a bureau has many advantages in every way you want to look at it.

If, by advocating this, I am able to do anything for dentistry, I shall be quite pleased and gratified.

Yours very truly,
*C. W. SOULES, D.D.S.*

# BOOK REVIEWS

## Who Should Give Instruction in the Manipulating of Filling Material---The Dentist or the Manufacturer?

The S. S. White Dental Mfg. Company issues from time to time what they call The S. S. White Letter. It discusses subjects of interest to dentists concerning their products and their affairs. The latest one discusses first, what the dentist calls "The assumption on the part of manufacturers in dictating technique," and second the matter of the production of heat in the manipulation of cement.

For convenience of discussion they divide dental products into finished products, such as instruments, tools and equipment which need no further manipulation to use them and partially manufactured products, which require further treatment by the dentist to be used, e.g., cements, amalgams, golds, etc. The completely manufactured products do not need any directions for their use, so the letter says, but the partially manufactured articles do. It is presumed that the general instruction gained at college would cover the first part, but what of the new instrument or the ones introduced since a particular dentist was at college?

Directions for using some of the modern impression trays and matrices are of great value and might well be sent out from the pen of

the designer through the manufacturer to the dentist. These are simple mechanical contrivances, the use of which can be described by a designer or manufacturer. But when it comes to the description of how to use materials which are to be applied to vital tissues it is another question. It at once involves the problems of biology, physiology, pathology, anatomy and chemistry. It may be that manufacturers have all these factors in mind when they set about to make their products, but judging from the past, and even the instructions of many at the present time, one is led to doubt the value of some of the instructions given. Cements have been put on the market as impermeable, insoluble, non-porous and of natural tooth color, not one of which has been true, and naturally the dentist concludes that the manufacturers instructions are on a parity with their knowledge of the physical properties. As a matter of fact the general instructions given to mix and pack an amalgam filling will not make one non-leaky filling out of five.

Within certain limits there are very fixed conditions under which partially manufactured products must be made to conform. The method of manipulation is determined by the fixed conditions of anatomy, chemistry, biology, physiology, etc. It is only by testing the product by some one who knows these fixed conditions that a proper technique is developed.

The letter gives exceedingly interesting and valuable information in reference to heat production in the manipulation of cements. The too rapid and imperfect mixing of the powder with the liquid on a warm slab produces heat expansion, porosity and now crushing strength. The letter says that experimental tests have demonstrated that a temperature of 130F. is unsafe on the dentine covering a dental pulp. These are doubtless very important tests and should appear in the dental literature because there is such a wide range of temperature tolerance in teeth within physiological limits. The manner of testing would be interesting. Hot tea and coffee may play an important part in dead pulps, in decayed and filled teeth.

There are some general principles underlying the mixing of powders and liquids to get the best resultant product that might well be set forth in such a letter and if need be such modifications stated as are required for a given product. The concrete builder, the breadmaker and the dentist employ the same general principles, making only such modifications as are required by special requirements.

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The Review of Clinical medicine is a new publication which aims to direct attention to the interpretation of clinical facts and experimental evidence as applied to dental practice. It hopes to stimulate a broader interest in the medical aspects of dentistry. All of which is very commendable, but who is going to learn and practice the fine technique necessary to do the operations designed by so many of these would-be medical dentists. Mechanics there will have to be but where will they come from? Are they to hold dental degrees and the others to hold medical degrees? There is enough time now spent in the study of mechanical dentistry which is not practised by most dentists to go a long way on the medical degree. In this same issue is a questionnaire on removable bridgework answered by what are said to be the founders of the modern system of sanitary bridgework.

One often wonders at the provincialism of all people. With what smug complacency we credit this or that person with discoveries, and

designing methods of practice which are entirely local. How we argue and get all heated up about the pros and cons of subjects which are of no value and not even thought of by greater people. One would think from the nature of the questions that the value and use of bridgework were going to be settled forever by the answers. Is there no one outside of these chosen persons in all the world who has done anything of value?

If it were not for the answers one would be driven to believe the questions were written by the one who answered them. What are the advantages of *your* type of bridgework over fixed bridgework, clasp type, partial plate? As if partial plates were bridges. Another sample of question. What is the approximate time of wear of your type of bridgework? One would think the designer of these methods of practice were a manufacturer of wearing apparel which wore out by attrition, like shoes, but even clothing lasts a short or long time by the character of use it gets. What percentage of the public uses your system? This implies that the public uses this or that system at will. One marvels that discoverers of great principles in public health can be induced to answer such questions.

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*Practical Pedodontia or Juvenile Operative Dentistry, by Floyde Eddy Hogeboom, D.D.S., Illustrated;* Publishers, C. V. Mosby & Co., St. Louis.

This is one of a series of small books on dentistry being published by C. V. Mosby Co. There are only eighty pages but the pages are large and well printed and illustrated. It pretends to be a treatise on operative dentistry for children, but does not cover the problems of diseases of dentition or oral hygiene or prophylaxis. There is more in operative dentistry for children than embryology, cavity preparation, fillings, root treatment and public health dentistry. The general teachings are good but the details do not seem to carry conviction. Preventive orthodontia should find a place in such a work as well as the relation of diet to defects of human teeth.

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# The Publisher's Page

## *A New Year Message*

We are grateful to the Canadian Dental Profession for their continued support of Canada's oldest dental journal and the interest which has placed this publication in the unique position of having double the subscribers of any other dental journal in Canada.

We have many good things in store for you this year. More reports of the various dental societies, more practical dentistry, more original communications and exclusive publication. In fact, a bigger and better Canadian journal for Canadian dentists.

We look forward to making this publication more interesting and more valuable to you with every issue and welcome suggestions and criticism.

The publishers take this opportunity to extend to the Dental Profession their best wishes for a Happy New Year.

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Dominion
Dental Journal

Vol. XXXVII TORONTO, FEBRUARY, 1925 No. 2

# Copper Amalgam as a Root Filling Material

*F. C. Husband, D.D.S., Toronto.*

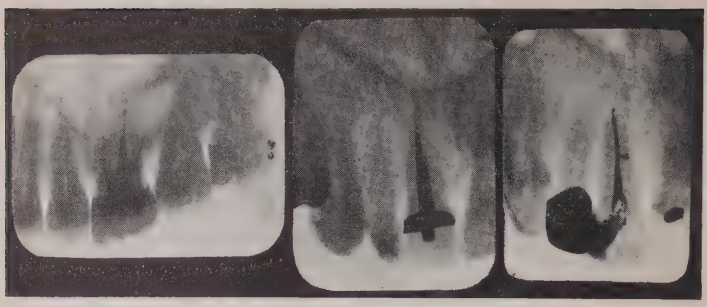
*The antiseptic properties of Copper Amalgam have been known and experimentally attested to again and again for many decades. Miller made experiments to determine the antiseptic properties, if any, of filling materials. He not only found that copper amalgam freshly prepared and old fillings had antiseptic properties, but he also found what was fully more significant—that dentine from extracted teeth which had been filled with copper amalgam was not only sterile but had antiseptic properties also. *Marshall's text book of operative dentistry.* Simms repeated the experiments of Miller and found that copper amalgam and oxychloride of zinc had definite antiseptic properties for some distance about them. *Science and practice of Dental Surgery, Bennett.* Black says: "This amalgam has so many good qualities that many abandon it with much regret. I think it is generally acknowledged that copper amalgam fillings retain good margins when they are once made perfect better or more perfectly than any other filling material. Within the limits of its strength it is as rigid as hardened steel. It does not contract, but exhibits very slight expansion on setting." Black believed its inhibition of dental caries was largely due to its perfect fitting the cavity walls. *Hodgens metallurgy.* Kirk says: "Its preservative qualities render it a valuable constituent in teeth of low grade structure." *Cosmos XXXVII, Page 737.* Dr. Foster Flagg says: "I regard copper as a most valuable constituent of any amalgam." *American System of Dentistry.* Weagent says that copper amalgam acts as a preservative of the dentine by permeating the tubules with an antiseptic solution. *American System of Dentistry.*

Fraser repeated the experiments of Miller Simms, Black, Kirk, and others, and found that copper amalgam had antiseptic properties of a very permanent character. They found that it retained its antiseptic properties after having been transferred into a fresh medium every two weeks for a period of five years, because of this permanent antiseptic property and the fact that clinical experience over many years had shown that it had no irritating properties in contact with vital tissues it was suggested "That it might be used with decided advantage where the discoloration of the tooth is not a factor, as a temporary filling, or in root canals, in cavities below the gum line and when it could be covered on the exposed surface by another filling material." *Dominion Dental Journal Jan.* 1925.

## SILVER AMALGAM IN ROOT CANALS

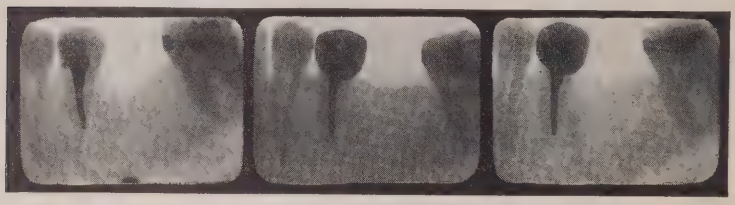
Dr. Litch in the American System of Dentistry published 1887 suggested the use of silver amalgam as a root canal filling in preference to

* Read before the Academy of Dentistry, Toronto.



A B C

FIG. 1—(a) Putrescent pulp treated and filled, Jan. 1925; (b) putrescent pulp filled 1923; (c) devitalized pussunanaesthesia Nov. 1922. These figures show that fine root canals can be filled with copper amalgam.



A B C

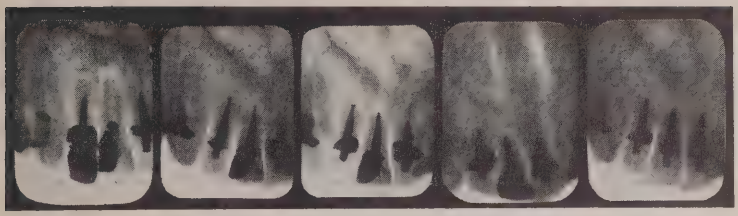
FIG. 2 (Gunton)—(a) Devitalization, arsenic, Oct. 13, 1921. Failed to get a good filling in canal, Oct. 27, 1921. The following day removed the gutta percha and filled with copper amalgam, X-rayed; (b) shows condition Dec., 1923; (c) shows condition, Jan. 30, 1925. Note: The perfect condition of the periapical tissues. Arsenic, devitalization and the filling short of the apex allowing calcific closure.

A B C D

FIG. 3—(a) Abscess with sinus apex filled May 6, 1922; (b) appearance Nov. 29, 1922; (c) appearance June 11, 1924; (d) appearance Dec, 29, 1924. Note: shows the results of copper amalgam root filling in root resection cases.

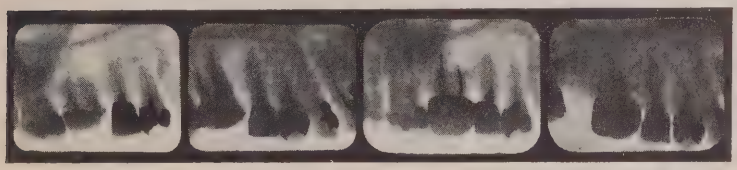
gold foil or cotton wool, which were in common use. He evidently wished to be cautious in the matter because he says "The writer does not wish to be understood as recommending it for this purpose but would suggest some points of comparison."

It is quite apparent from dental literature that filling root canals with either silver or copper amalgam never became a general practice because no



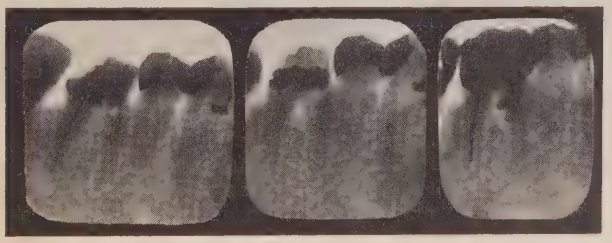
A B C D E

FIG. 4—(a) Teeth showing apical areas of rarification, Dec. 19, 1919; (b) roots filled with copper amalgam Feb. 16, 1920; (c) curretment, Feb. 23, 1920; (d) appearance June 6, 1921; (e) appearance Jan. 30, 1925. Shows gradual improvement until the bone appears in contact with the amalgam.



A B C D

FIG. 5—(a) Abscess with sinus on mesiobuccal root of upper first molar with area of rarification, Feb. 1920; (b) root filled and radiographed March 9, 1920; (c) appearance of improvement of bone between the mesial root and the bicuspid and remaining circumscribed area of rarification; (d) appearance Jan. 30, 1925. Note: Gradual improvement over a period of four years following short medication and copper amalgam root fillings.



A B C

FIG. 6—(a) Lower left first molar, chronic infected areas on both roots, June 30, 1922: (b) appearance after medical treatment for a year and a half followed by root filling of copper amalgam; (c) appearance of apical tissues, Jan. 30, 1925. Note: The value of long medical treatment and improvement under copper amalgam.

text book mentions it as a method to be followed. Copper amalgam was abandoned as a filling material chiefly because of its discoloration of the teeth. As Black says, copper amalgam has many desirable properties which should not be lost sight of, and if the technique suggested below is followed what seemed to be its undesirable properties can be utilized to preserve and save many otherwise doomed teeth and prevent infected areas about root end of teeth.

## TECHNIQUE OF ROOT CANAL FILLING

Prepare canal as for Coolidge Sectional Method. Reasonable enlargement of canal is necessary with chuck bore or shoulder at apical end. This

shoulder preparation, as has been pointed out in connection with the Cool-idge method for Gutta Percha, enables the operator to more definitely place the first section of the filling. Reamers in the engine should be used with the greatest care, if at all—hand reamers are much safer. Choose a root canal plugger that will pass to the end of the canal without binding.

Dress off the end of this plugger with a cuttlefish disk in the engine so that it is flat and at right angles to the shaft of the plugger.

Bend a shoulder on the plugger so that the shoulder will rest on a given or chosen edge of the cavity margin when the point of the plugger is at the end of the canal, as is made out by the X-ray of the root with a diagnostic wire in place. This is your guide that the plugger is reaching to the end of the canal, and no further.

Mix the copper amalgam quite soft.

Carry a small piece to the mouth of the canal with pliers or amalgam carrier. Gently lead some of it into the mouth of the canal about 2 or 3 mm. in depth with suitable plugger, but avoid any suggestion of packing. Take plugger already selected with shoulder as above described, and hold-ing same with a very delicate hold between the thumb and finger, pass it through the amalgam and with one continued motion right to the end of canal—or until the shoulder engages the cavity margin at the point select-ed. Repeat this process several times carefully, till you observe from the shoulder on the plugger that you have built up the amalgam about 1 mm. at the apical end of the canal. Gently "tamp," to use Dr. W. E. Harper's term, a few times to adapt the amalgam and condense it. Repeat this process, building up 1 mm. at a time till the desired amount (3-5 mm.) has been inserted.

Remove surplus amalgam with barbed broach. The filling of the rest of the canal is a combination of cement and gutta percha.

Having chosen a suitable gutta percha point—as large a one as pos-sible—fill the rest of the canal full of a rather soft mix of oxychloride of zinc cement and press gutta percha point through it to the full depth.

Wipe off surplus with hot ball burnisher and with suitable plugger gently press warmed gutta percha into the cement.

This will probably bring to the surface globules of mercury which have escaped the barbed broach. These should be removed from the tooth.

In order to prevent discoloration of the crown or visible neck of the tooth, the root filling should be removed to a safe depth (4 or 5 mm.) root wise of the gum margin with a bur in the engine, and the walls of this portion of the canal made perfectly clean. Replace portion of root filling thus removed with oxychloride of zinc cement.

The placing of the Gutta Percha cone in a portion of the canal, as described, makes it possible to gain easy access to the canal in case it is desired to insert a dowel as in the construction of a crown.

Radiographs should be taken immediately after the copper amalgam is inserted and before the cement and Gutta Percha are inserted to check up the work and to satisfy the operator that it has been placed where he wished it to be. In the even that he has failed to get it to the end of the canal, it can easily be removed because it is very slow in setting—taking hours to harden.

Even after it is set, it is possible to remove it by applying heat to it with a hot probe.

Copper amalgam can be successfully placed in any root canal where Gutta Percha can be placed and has a decided advantage over it because

of its proven germicidal qualities, over a seemingly limitless period. Should any be pressed beyond the apical opening, it will be found to be non-irritating except in a mechanical way, on account of pressure. This is only temporary, however.

Copper amalgam has been used successfully for a number of years as a root end capping following root resection; but it would seem a simpler and much more effective method to fill the apical portion from the coronal end providing the canal could be opened. On account of the zone of germicidal influence extending some distance on all sides of copper amalgam, it would seem permissible to place the amalgam ½ mm. or so short of the apical opening rather than press it through.

Such investigators as Clyde Davis of Nebraska have shown chiefly in devitalization cases that the peridental membrane closes over the apical opening and even deposits lime salts in the opening, thus effectively sealing it. Any operation, therefore, that would permit of this physiological repair, would seem to be acceptable.

Dr. W. H. Garvin says: "We now have records of eight hundred resection cases or apicoectomy cases in which amalgam has been used as a filling in the apical end of the root canal, dating back over the last ten years. In seventy-five of these cases during the past three years we have used copper amalgam on account of its antiseptic qualities. Clinically the results from using copper amalgam have been quite satisfactory, but to date we have not had time to check up enough cases by roentgenogram and by extraction to draw such conclusions as I should like to draw before presuming to write a paper on the subject."

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## Copper Amalgam Root Canal Technic

*G. A. C. Gunton, D.D.S., Toronto.*

Supplies and instruments: X-ray, Caulks' root canal pluggers (set of 6), Kerr root canal pluggers (set of 6), round bur, phenol, paper points, copper amalgam, mercury, temporary stopping, cement or gutta percha.

Prepare root canal as for chlora percha and gutta percha root canal filling.

X-ray root canal with diagnostic wire in place.

If root canal is of moderate size, no reaming is necessary.

Sterilize root canal with phenol on paper point (with rubber dam in place).

Absorb all moisture from canal.

Mix copper amalgam thoroughly with a few drops of mercury till the mass is quite soft, but not sloppy.

Place a bit of copper amalgam in root canal and with a root canal plugger of a size that will reach the apex of the root tamp copper amalgam to apical foramen.

When 1-3 to 1-2 full, fill root canal with absorbent cotton and force cotton against the amalgam with a large root canal plugger and the excess mercury will be expressed out, and may be readily wiped away.

X-ray the filling. If not filled properly remove copper amalgam before it sets.

Remove all excess amalgam that can be removed from cervical half of root.

Seal with temporary stopping.

Next day remove temporary stopping and drill out any traces of copper amalgam in crown or cervical half of root canal.

Fill balance of root canal with gutta percha, chlora percha or cement.

Permanent filling material may be inserted.

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# Emergencies of Practice Met With in Oral Surgery

*F. E. Risdon, M.B., D.D.S., Toronto.*

In considering emergencies we should recall them in their order of frequency, and I imagine the most common is opening into the antrum of Highmore at the time of extraction. Roentgenograms may or may not have been taken, but we all know that the apices of the bicuspids and molars may reach up into the floor of the antrum and if any infection occurs may perforate this so-called floor of the antrum. Sometimes when extracting, a small portion of the floor may come away with the tooth. The treatment therefore must vary, as the infected case will have more discharge and will take longer to heal. If there is no infection, I believe that little or no treatment is necessary, and certainly packing with gauze or probing should be avoided. If any loose pieces of alveolar process can be seen or felt they should be removed, but avoid irrigation, packing, etc. In the infected cases, the opening should be examined for necrotic bone, and if it is necessary to remove this diseased bone, the opening will have to be enlarged, followed by a few irrigations. I say a *few* irrigations, because if the opening is large, free drainage occurs and no irrigations are necessary except to make the patient more comfortable, and frequently hot mouth washes accomplish the same results. A root pushed into the antrum may be recovered by enlarging the opening and irrigating —but one must remember that sometimes these openings do not close. Another method used to recover a root is to make an opening in the canine fossa and see it with direct light; and before closing this incision a second opening is made into the nose under the inferior turbinate to allow drainage for a few days. Some rhinologists believe that an opening should be made immediately into the nose where the dentist has accidentally opened through the tooth socket, maintaining that if this is done early the mouth opening will always close. I believe this is good treatment but it is a bit heroic and discredits the dentist in the eyes of the patient. Neither is it imperative as the majority of these accidental openings will close, and if they fail to close, a plastic may be done subsequently.

Hemorrhage following extraction, where the patient has lost considerable blood, is a real emergency. The usual treatment is packing with selvedged gauze soaked in a styptic such as adrenalin chloride, but in some cases this does not suffice. I have been called where the general surgeon and the dentist have used every styptic and the patient continued to bleed. This has also been my own experience with the use of drugs. I have almost discontinued their use where the patient has been bleeding any length of time, and at once apply pressure with the dental compound and rubber dam. I apply a bandage under the chin and over the head, and in this way maintain pressure on the compound between upper and

lower jaws, while the patient sleeps. Occasionally blood transfusions or intra-venous 10 cc. of a 5% calcium chloride is indicated to aid in the clotting, but this is seldom necessary in women, as hemophilia is a disease transmitted through the female to the male and seldom influences the female. I was recently called upon to operate on a young woman of 19 years of age, and the mother told me that she had lost three sons from minor operations—all bleeders. The clotting time was tested for this young woman and found normal, and at operation the hemorrhage was not excessive, but the history of the family was not comforting, to say the least.

Another condition which brings grey hairs to some of us is a fracture of the lower jaw following the extraction, say of an impacted molar. If you recall for one moment the anatomy of the part, how the body of the mandible joins with the weak ascending ramus and is further weakened by a large molar tooth in the thinnest part of the bone, leaving only two plates of compact brittle bone as a support, one wonders why these fractures do not occur more frequently. The reason for this is that the dentist is a careful and skillful operator and is seldom guilty of using too much force. The cause of fracture when it occurs, then, is that force is applied before the tooth is exposed in this weakened angle of the mandible. If this accident occurs, what should we do? It will be necessary to inform the patient, but this can be done very gently, at the same time assuring the patient that it will soon be all right as they are very easy to treat, but that he will suffer some inconvenience at mealtime. I would say, always apply some first-aid treatment even if it is useless, as it satisfies the patient for the time being—such as a bandage or some interdental wiring, and 10 grains of aspirin to be repeated 2 or 3 times at 4-hour intervals. At the first opportunity, good X-rays should be obtained —if possible, taken in stereopticon, but failing this, always in two positions and using the large plates rather than the small dental films. A plate taken in one position may be difficult to read, but supplemented by another position the condition may be obvious. It will be necessary in most of these cases to use some form of splint; and it is to be remembered that nearly all of these fractures occur posterior to the teeth, consequently the short fragment, the ascending ramus, is not easily controlled without closing the mouth. This will necessitate some interdental splint, and the simplest of all is the so-called U.S. Army method, where the medium bronze angle orthodontia wire is made into a small loop and twisted once or twice, the two ends of the wire are gently forced from the labial side through the interspace between the two bicuspids of the upper jaw, and lingually one wire passes forward around the first bicuspid and out through the interspace between the bicuspid and cuspid. The other end is carried distally around the second bicuspid and comes through the interspace between this tooth and the first molar, then the two ends are twisted on the labial surface. By that means the loop is held securely between the two bicuspids in the upper jaw. A similar loop is arranged for the two bicuspids in the lower jaw. Loops are then placed at various intervals in the upper and lower jaws, and being opposite each other, can be ligated together with silk when you so desire. This is a very simple appliance, easily introduced and inexpensive.

Another form of splint is the so-called Hammond, constructed by taking an impression of the upper and lower teeth and then casting with Victoria metal a thin facsimile splint. In all these cases the occlusal sur-

face of the wax is cut away before casting, and a small 22-gauge wire soldered at the gingival margin of the splints—but the wire only caught in spots. That really means that you have an orthodontic arch, upper and lower, held in position by these thin splints, and wire or silk can be used to bind them together. The posterior fragment of the fracture must be moulded into position when you close the mouth, and it will remain in that position if the jaws are held in apposition. No anaesthetic is ever necessary. Now, many other splints can be made, such as the interdental rubber splint, but I only mention it to condemn it for the reason that it is seldom possible to see the occlusion of the teeth which is your only guide, it is too bulky and frequently necessitates an anaesthetic. Please note that it is never necessary to extract a tooth for feeding purposes, is the diet is eggnogs, malted milk, milk and water, soups, fluids, mashed potatoes, etc. This appliance is to be worn for 3 to 5 weeks.

Now let us consider the breaking of needles at the time of injection for block anaesthesia—generally speaking it occurs at the hub of the needle and leaves a section of needle in the internal pterygoid a little over an inch long. Whether you should tell the patient or not I will not discuss as it might weary you, but at any rate I believe in most cases they do little or no harm; but medico-legally they are better removed. I have felt for some time that a modification of the so-called Smith technic of injection is safer unless you use platinum needles—and they will occasionally break. By this I mean that the swaying of the needle after being introduced in the tissue should be reduced to a minimum.

In attempting to remove these, I have found them much higher and deeper than I expected, and an incision must be planned to bisect the needle in the tissue. That means that the incision is made at right angles to the needle and about half an inch posterior to the anterior surface of the ascending ramus. From now on it is fishing and we wish you fisherman's luck—if that is always good luck. This can be done in most cases under local anaesthesia if you are the first to try and the patient is not too nervous. Apparently no bad results are to be expected other than lawsuits or large-sized claims.

Occasionally a Kerr broach slips and passes either into the bronchial tree or into the stomach. If into the bronchial tubes, it may be coughed up, or, better still, it can be removed with a bronchoscope—a long tube with an electric light on either end—but if it enters the stomach it should be followed day by day, (and it usually takes about four days to pass by the bowels), with the fluoroscope, for fear it might come to rest in the lining of the bowels. If this occurred the patient should be opened to prevent peritonitis or other inflammatory conditions. The diet given these patients is mashed potatoes and dry bread, avoiding purgatives of any nature.

Let us consider infections following extractions. It is my firm belief that the so-called infected areas are largely due to lysol and other strong antiseptic liquids in which the needles are kept, and it is sloughing rather than infection. To avoid these and straight infections, all needles must and should be boiled for five minutes at least, and the syringe may be kept in alcohol if you so desire.

The above has to do with changes in the soft tissue, but in the bone, one should never open fresh areas in acute bone infection unless walled off by round-celled infiltration. We are talking of one of the stages of inflammation, and you will recall that nature first quickens the circulation.

then retards it, and during this stage round-celled infiltration occurs, so that in an abscess or boil the entire area is surrounded by round cells, and this is nature's barrier. Now if you are too hasty and operate before this occurs, or break it down with a curette after it does occur, you will likely distribute the infection as the blood vessels in bone are very numerous and have scarcely any wall—slightly more than just channels through the bone.

Now this brings up curetting—should it be done? In all cases where the X-ray reveals small areas, likely infected, in the bone, I would say *no* most emphatically, and never in acute cases. I firmly believe that most of these small areas will be absorbed, and if not, they can be removed at some subsequent operation more safely. I am speaking now of small areas. In the larger ones a sac has formed and it is likely necessary to remove this sac, but in so doing a moderate exposure must be obtained and never through a tooth socket, as it rather resembles the classic camel through the needle of the eye as we literally view it. To do it, all that is necessary is to remove a small section of the buccal or lingual plate of the alveolar process with a biting forcep, and with a fair-sized spoon curette—never a dental burr—gently remove the sac, leaving intact a small clear bony wall which is nature's barrier. I believe that we should always keep in mind that it is a sac or a loosened piece of bone that we intend to remove, otherwise our diagnosis is wrong, and that is why I see little or no use for the dental burr, fearing that it will penertate that smooth bony barrier.

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## Our Organization

Annual Report of the Canadian Oral Prophylactic Association.

*Harry S. Thomson, D.M.D., Dental Executive, Toronto.*

The report of the work done each year by the Canadian Oral Prophylactic Association is more or less a repetition of reports given before, emphasizing perhaps some outstanding achievement during that particular year, or recording some improvement in our organization or in the sales or manufacture of the HUTAX products, royalties from which furnish our revenue.

A history of the Canadian Oral Prophylactic Association from its inception to the present time, is largely a history of the Oral Hygiene and Public Dental Health movement in Canada.

About twenty years ago a few dentists—only about half a dozen—gathered together to try and put forth organized effort along lines of Oral Hygiene. If you would remember that at this time there were no public Dental clinics; no Public School clinics: Dr. Hunter had not yet made his memorable statement regarding Oral Sepsis; dentistry was almost entirely reparative, and the dentist's greatest aim was to so perfect his technic and skill as to enable dentistry to catch up with the fearful ravages of caries.

The above-mentioned group of six men formed themselves into the Canadian Oral Prophylactic Association, saw the need, and in a manner worthy of emulation by the younger men of today, persisted in their organized effort and today, after twenty years, they not only have their reward in viewing the structure they have created and in reflecting on the great work they have accomplished, but can justly claim that all of the Oral

Hygiene work done in Canada during these years and down to the present day is due in some measure to the assistance, stimulus and initiative of the Canadian Oral Prophylactic Association.

Today we have our Oral Hygiene Committee of the Canadian Dental Association. The Oral Hygiene Committee of the nine provinces in the Dominion, the Oral Hygiene Committees of the larger city societies. All of these at one time or another have received help from the Canadian Oral Prophylactic Association, and they have thus been enabled to carry on work which, according to their letters of appreciation, would have been otherwise impossible.

So with such a splendid history as this to spur us on, we go on from year to year, striving to do something better than ever we have done before, correcting some things that have proved a hindrance and modifying others that were not functioning satisfactorily and thus we have endeavored to make our organization acceptable and of service to every dentist and his community in Canada. To please all is a task that none of us ever expect to accomplish; to please many is the goal to which we aspire, and this report of our activities for the year 1924 will prove that—in some respects at least—we are accomplishing just this.

## HUTAX TOOTH PASTE

It is most gratifying, considering the great business depression through which we are passing, to report that the royalties received from the sales of Hutax Tooth Paste during the year 1924 were the largest in the history of the C.O.P.A. The sales of Hutax Tooth Paste have grown steadily from year to year, until during this year—1924—we have received over six thousand dollars in royalties from the Hutax Tooth Paste alone. The formula of the product has been improved or changed from time to time, and the quality of its ingredients and its manufacture have been brought up to such a high standard, that we are satisfied that today it stands out as a most efficient, harmless, pleasing dentifrice. The price of the product has been maintained at a level which gives the druggist a good margin of profit and still enables him to provide it to the public at the reasonable price of twenty-five cents. The formula of Hutax, which is printed in English and is in every package, enables the dentist to check up and determine just what he is prescribing for his patients. We would be glad to receive from any dentist suggestions of changes that in his opinion would improve the product, remembering always that Hutex is not the product of the chemist and manufacturer only, but of every dentist that is a member of the C.O.P.A. One of the outstanding chemists of the U.S. has been working for some years under the direction of a group of dentists to produce a dentifrice that will conform to the requirement of the present day knowledge. It is pleasing to report that the result of his work published during the year, confirms our statements of the scientific soundness of our claims for Hutax, as the formula devised by him very closely follows the formula of Hutax, the only real difference being the method of binding together certain of its ingredients and the flavor.

Hutax Paste today is a tooth cleanser and mouth disinfectant, not a medicine in any sense of the word, containing neither sugar nor starch, and does not promote any strong chemical action in the mouth. We follow very closely the current literature on Dentifrices and Oral Hygiene and our constant endeavour is to keep Hutax up to the standard that has been set for it—the best tooth paste it is possible to make.

## HUTAX BRUSHES

The year 1924 has witnessed extravagant campaign after campaign by manufacturers of Tooth Brushes to impress the public, through unusual advertising and selling methods, with their claims of superiority of their particular style of brush.

The two outstanding efforts have been made by companies from the United States, and they have been carried on in truly United States methods. The most striking thing to the ordinary layman has been the extravagant and lavish expenditure of money in noisy display in store windows, billboards, newspapers and magazines. Most unusual methods have been employed, such as premiums to the commercial travellers, paying the merchant for space for window display, giving a bonus of from 2½ cents to four cents to the clerk in the store for each brush sold. These efforts and not any outstanding point of superiority of their product has greatly disturbed the regular tooth brush business, and Hutax, like many others, has suffered from it.

When you reflect that Hutax Brushes are sold entirely on the recommendation of the dentists, without any advertising at all, and only through the sincere desire of the dentist that his patient obtain the most effective and scientifically developed brush to assist in maintaining mouth hygiene, it is to be wondered that Hutax Brushes have maintained their position in the face of all the hectic competition that has been met. That our sales can be maintained in the face of this competition proves, we believe, the stability of our design and quality of the workmanship. The design of the Hutax brush which was originated fifteen years ago by the Canadian Oral Prophylactic Association is imitated as nearly as possible in many brushes today. In fact, one manufacturer has gone so far as to copy our brush head, tuft for tuft and bristle for bristle, and is making the same variety of textures in both the two and three row types; in fact, they are making the Hutax Brush under another name. When you consider that all of these manufacturers are in the brush business simply to make more money for their shareholders and directors, and with no other motive than a commercial one, and when you know that every cent of profit made by this association goes back directly to the community by assisting in Oral Hygiene and Public Dental Health work, that not one cent of it goes for profit or bonuses to shareholders or individuals, and the Association exists solely for the purpose of providing to the dentist and through them to the public, a correctly designed, Hutax brush, made by the best manufacturers available and by the best and most satisfactory methods known, then you realize for what the C.O.P.A. and Hutax really stand. Every Hutax tooth brush is hand made, silver wire drawn, with non-flexible bone handles, and each individual brush is guaranteed to give complete satisfaction to the user, both by the manufacturer and the Canadian Oral Prophylactic Association. Compare Hutax, if you will, with the machine-made, staple-tied brushes that are being so extensively advertised during the past months, then consider where the profits from these brushes go —do they remain in Canada at all—and are they used for philanthropy and charity only. I think it behooves every dentist who has the interest of his profession and patients at heart to consider well the aims and purposes for which our organization was founded, and then he will realize that Hutax products are worthy of his undivided endorsement and that by recommending and insisting on his patients using Hutax, he is not only

giving them the best services possible in this line, but he is helping promote a work that is bringing credit to the profession to which he belongs and better health and comfort to his patients and community. In this report I would like personally to ask you to see that every patient that leaves your office in 1925 goes out with a knowledge of the C.O.P.A. and its work—and a prescription for Hutax products, which will make them also partners in trying to put across this big work of better mouth health.

The sales of Hutax brushes during the last few months have fallen off considerably, due to the enormous sums of money spent by our competitors—and lessened sales mean lessened royalties received by our Association—lessened royalties mean lessened activities. So let us see to it that our efforts to improve this are increased.

## SCHOOL BRUSHES

One branch of our activities that is growing from year to year, is the selling of Hutax brushes and paste to school nurses and school boards at a price which enables them to be provided to school children at about one third the regular selling price—ten cents for the paste and fifteen cents for the brush. This is made possible only through the philanthropic co-operation of our sales agents, Lyman Brothers & Co., for the paste and John Hargreaves for the brushes, who share with us equally on the loss sustained. During 1925 thousands of brushes have been so distributed. The good accomplished in this way makes the scheme more than worth while, for the interest of the teacher, as well as that of the school board, is aroused and so instructions are given to the pupils on how to keep the mouth clean, with some definite means provided to assist them in their efforts.

During the last month, a delegation from the Ontario Retail Druggists Association made some suggestions to us regarding changes in the carton or wrapper of the School Children's brushes, which would take care of some criticism from druggists who didn't just understand our method. These suggestions have been adopted.

## BRUSHES IN THE U.S.

As you will see by our financial report, during this last year we have been able to liquidate our assets consisting of our stock of Hutax brushes on consignment with the Lambert Pharmacal Co., in St. Louis, Mo. Our business venture over there shows a considerable loss, but we feel that this was brought about by conditions over which we had no control.

We still have coming in from time to time orders for our brushes from United States which proves that Hutax brushes are not only considered in Canada the ideal brush, but in United States and England as well. These orders are now filled from our Canadian agency. A business man recently returned from Europe advises us that in Antwerp he asked in a drug store for a tooth brush and the first one shown him was a Hutax.

## BUSINESS

In order to take advantage of every opportunity, we have during the past year held conferences with several organizations who suggested some plan of action or partnership whereby in their opinion our revenues could be greatly increased. None of these have been adopted, after considering them from all angles, and for the present our methods of the distribution of Hutax remains as it has been. I would like to reaffirm my own belief

that it would be an improvement if all Hutax products were handled through one agency. In this way overhead expense could be considerably reduced and cost of administration greatly lessened.

## CONVENTIONS

During the past year our products, along with our educational activities have been shown at several provincial dental society conventions. Under the auspices of our Sales Agent, Mr. John Hargreaves, samples of our Hutax brushes and paste were distributed, and the story of our association told at each.

## EDUCATIONAL—Department of Information

Year after year that part of our work which carries educational matter to the dentists themselves increases in usefulness and activity.

The year 1924 has been a very successful one along these lines—more and more dentists all over Canada are getting to depend on us for literature covering the changes and important discoveries in our profession: Many of our members take only one or two dental journals and it is impossible in these cases to follow closely all of the literature. So our organization steps in and on request furnishes the information as to just where leading articles can be found, and if necessary, provides a typewritten reprint of it. Through the whole-hearted interest of the leading minds of Canadian Dentistry we are able to answer questions concerning difficult technique and major and minor operations to dentists in remote parts, which enables them to carry on work which might possibly have to remain undone. The work entails considerable expense, but from our standpoint it is worthy. Letters of appreciation which we have received from dentists from Coast to Coast are tangible proof of their gratitude and of our opportunities to be of greater service in this particular field.

Your executive has made trips to different parts of Canada during this last year—more particularly through the Province of Ontario and the East, at the request of local dental societies, to assist in their Oral Hygiene work. In all these places an endeavor was made to carry out the wishes of the local society and prove to them that our association was of value, not only to them as dentists, but to their entire community. During the year addresses have been given to Kiwanis and Rotary Clubs, women's organizations and institutes, normal schools, college groups and high schools. I would like it particularly understood that all of this work of a public nature is done solely under the auspices of the local dental societies, while our work to dentists is done under the C.O.P.A. By this differentiation I wish to impress upon you that our work is done only through the dental bodies, and any time that our Association appears before a public body, it is at the request of the Dental Society or group of dentists.

## OUTLINE LECTURES: Slides:

This phase of our work continues to fill a very important place in the Oral Hygiene work of Canada. Our slides and outline lectures have been distributed during this past year from coast to coast at the personal requests of dentists, and we have received reports of lectures that have been given from them which have convinced us that the help given in this way was extremely worthy. I would like again to emphasize the desirability of this particular field of activity—more especially lantern slides—

being taken up by each province, as the distance from coast to coast covered from a central distributing point is so great as to entail unnecessary expense in replacing broken and lost slides. I am in hopes that very soon some adjustment can be made in this particular branch of the work.

Our moving picture films have been used by the Oral Hygiene Committees of several of the provinces and are at present all in use. New films are badly needed and should be obtained at once.

## MEMBERSHIP

Our membership has been climbing steadily from year to year, so that we now are proud of our position, both in numbers and in the standing of the men that make up our Association—a group of great potentiality to carry on the work to which our organization is dedicated.

## FINANCIAL REPORT

Our financial report, which will be read to you tonight, shows that during the year 1924, from Hutax paste alone was received the largest amount of money in royalties that we have received in our history. As before mentioned, our royalties from Hutax tooth brushes were somewhat lessened, but this we hope will adjust itself during the coming year, as our sales agents are optimistic and we are hopeful that campaigns now under way will bring the Hutax brush to its rightful place.

## ORGANIZATION

During the past year more progress has been made regarding a linking together of the Oral Hygiene work done throughout the Dominion. The Canadian Dental Hygiene Council has obtained its charter, its officers and committees have been appointed and with the financial help of the C.O.P.A. it is now prepared to function. I consider that much greater good can be accomplished by this united effort and that, by the hearty co-operation of all, greater results can be achieved. Overlapping would be avoided and overhead expense cut down.

The record of the educational work done by the C.O.P.A. during the last twenty years has been written; we are proud of its accomplishments, and we believe all Canadian dentists are proud of it. We were pioneers in the work of Oral Hygiene and public dental health and we blazed a trail which many individuals and organizations have followed, and these have brought a blessing to Dentistry, to the dentist, and to his community and our success will be written more largely in the success of the acts which followed it. And now with the ever increasing demands for more and more work, I feel that, united with an organization made up of both dentists and public spirited laymen, supported and endorsed by the Canadian provincial societies, the principles and purposes for which we were formed and for which we have existed will be fulfilled and Dentistry will rise up and call us blessed.

This is the fifth annual report that I have given for our association and during that five years the C.O.P.A. has paid out for educational work and Oral Hygiene, the sum of ($33,902.86) thirty-three thousand nine hundred and two dollars and eighty-six cents. This is exclusive of money spent in management and business administration of the association. Consider what this vast sum means. Instead of this amount being distributed

as profits or dividends to shareholders and directors of a company, it is every cent turned back into educational work to assist the dentist in carrying on, and in promoting the welfare and better health of his community. Does not this justify our existence and does it not call for your whole-hearted support and co-operation?

As Longfellow says:

No action whether foul or fair,
Is ever done but it leaves somewhere,
A record, written by fingers ghostly.
As a blessing or a curse, or mostly
In the greater weakness or greater strength
Of the Acts which follow it—till at length
The wrongs of ages are redressed
And the Justice of God made manifest.

HARRY S. THOMSON, Dental Executive
C.O.P.A.

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## President's Annual Address

Annual Meeting of the C.O.P.A. January 20th, 1925.

*W. Cecil Trotter, B.A., D.D.S., Toronto*

Gentlemen:—The last general meeting of your Association was adjourned to be reconvened at the call of me as your president when I considered that the Canadian Dental Hygiene Council (which was then in process of formation) had been officially organized and functioning and when I considered that the understanding between it and this Association was satisfactory.

Until quite recently, everything within our professional ranks has been in such a state of chaos and flux that I have not felt justified in calling you together to give you any such assurances.

However, I feel that at last things are beginning to right themselves and I am now able to inform the members of this Association that the C.D.H.C. has received a charter from the Dominion Government and is now commencing to function satisfactorily though as yet it cannot count on any regular source of financial support other than from the C.O.P.A.

Owing to delays in securing the Charter last spring the Council was unable to bring influence to bear on the Government at Ottawa for a money grant until late in the Session and this belated effort proved to be unsuccessful. Another more organized attempt will be made during this Session of Parliament.

At present there are three C.O.P.A. members on the executive committee of the Council viz., Drs. Eaton, Broughton and myself, and I have the honor to be its chairman.

The C.D.H.C. has been officially recognized by the Canadian Dental Association and is looked upon as the parent dental educational organization of the Dominion and will have representatives on its board from all the Provincial Dental Associations as well as from the Canadian Dental Association.

The Oral Hygiene Committees of the various Provincial Associations will act more or less in the capacity of Provincial branches of the C.D.H.C. and the latter will work in the various Provinces only through them and at their request.

As explained to you at the last meeting, the C.D.H.C. proposes to take over all the educational work of the C.O.P.A. and to have Dr. Harry S. Thomson act as their field officer in carrying on its work.

Dr. Thomson has already been doing some work for the C.D.H.C. and with your approval will steadily be doing some more as time goes on. Until the C.D.H.C. is better financed than it is at present it is hoped by the executive that the C.O.P.A. will continue to lend them the assistance of Dr. Thomson and they in their turn will endeavor to pay as much as possible of his expenses.

Referring to the business end of our organization I may say that taking it all in all, considering the general business depression, our sales have been very satisfactory especially in the case of the Hutax paste which has established record sales for the year. Owing to intensive and expensive selling campaigns of a couple of United States brush companies our brush has had a hard fight to hold its own, but we feel that the worst of that competition is over and are relying upon the superior merits of the Hutax brush to win out.

Thanks of the diplomacy, perseverance and astuteness of our Dental Executive our St. Louis stock of brushes has at last been converted into cash at a much smaller loss than we anticipated a year ago.

During the coming year we should be able to balance our budget especially seeing that our travelling expenses will be reduced, owing to our relations with the C.D.H.C.

I wish to take this opportunity of thanking the other members of your executive committee for the patience, forbearance and support which they have given me this past year often under the most trying circumstances.

I continue to feel that for the general good of our profession a policy of conciliation on our part and a thorough co-operation with the C.D.H.C. is advisable. I think that we should assist the C.D.H.C. in every way possible both morally and financially. If it can be made the success I hope for I feel that it will prove to be a splendid thing both for dentistry and for the public welfare. If, on the other hand, it fails to secure the necessary financial support in spite of our united efforts, we are in the fortunate position of being in a position to again take up the educational work and carry it on as we have so ably done in the years gone by.

I want to particularly urge everyone of our nine hundred members all over Canada to put forth their very best efforts to further the sale of Hutax Products and thereby further the educational and publicity work of the Canadian Dental Hygiene Council which we are now vigorously supporting.

Our dental executive, Dr. Harry S. Thomson, will present a report on the educational work carried out during the past year, which, as you will see, has been very extensive and most satisfactory. A short report on research work will also be given.

W. CECIL TROTTER, President.

# Radium Treatment of Carcinoma of the Antrum

*By Frederick M. Johnston, M.D., Toronto,*

Surgeon-in-charge of Radium Treatment, Steiner Memorial Clinic, Atlanta, Ga.

The problem of treating malignant tumors of the maxillary antrum seems to have passed the stage of radical surgery. Numerous operations have been devised and performed, depending upon the boldness and skill of the surgeon. Excision of the growth and the radical resection of the upper jaw have been done but an investigation of the results indicate that such methods have failed to cure, and in many instances have actually occasioned a fatal termination.

Carcinoma of the antrum is locally a highly malignant disease, accurate and early diagnosis is rendered difficult by the fact that cancer in itself does not produce specific clinical signs and symptoms. As in the case with all cancers of the mouth and nasal passages, the inflammatory processes may predominate, and a complete diagnosis of an antrum is not made until the neoclast is hopelessly extended. Symptoms of antral disease may be referred to the nose, the orbit, or the teeth, long before the presence of an associated tumor is suspected. Therefore, rinologists, ophthonlogists, and dentists have the first opportunity of making a diagnosis and instituting appropriate treatment. Too often records reveal that one or more nasal operations or recurring polypi which of course are secondary have been made or the dental surgeon has extracted all the teeth because of this, with the result that the socket is not properly healed but becomes filled with a new tissue, which for a time is believed to be proud flesh. Again, an antral empyema is suspected, and a very conservative opening has been made in the anterior wall for irrgation purposes.

The first symptoms in many cases of a series were persistent pain or burning over the cheek, due to irritation of the fifth nerve. Later this pain was referred to the teeth or forehead. There was usually temporary release when the tumor perforated. Such symptoms last for about seven months before the patient applies to a general surgeon. Many cases present signs of increase antral pressure, and swelling of the cheek, with the swelling most prominent adjacent to the inferior rim of the orbit. The palate and alveolar process indicate no evidence of the lesion.

In another group there are no orbital stones and systems and the external tumor is well below the eye. The alveolus and palate are however swollen and perhaps destroyed.

The third and smaller group may require an opening through both the orbit and the alveolar process. These are very advanced cases, but we feel that in selected patients there is the possibility of clinical cure of palliation. Before the radium treatment is begun, there is an operative treatment involving tying or the important vessels and investigating the disease bearing tissues in the jugular region. The antrum operation is performed on the same day or at a subsequent sitting. The radium is applied by taking up unfiltered emanation tubes with an ordinary rubber finger cot and packing it centrally or toward any wall depending on the needs of the case. As a rule about 35 to 40 illicuries are used for periods varying from 48 to 60 hours.

To sum up: First, cancer of the antrum must be recognized in its early stages before any method of treatment produces uniform favorable results. Second, conservative surgery combined with radium promises to give better results than does the radical operation. Third, Palliation for a large number of hopelessly advanced cases is possible through the conservative use of Radium. Fourth, The success of radium depends on the adequate exposure of the area.

## SOCIETIES

## Minutes of the Canadian Dental Hygiene Council

Toronto, Ontario, October 7, 1924.

The first general meeting of the Canadian Dental Hygiene Council was held here today, October 7, 1924, at the King Edward Hotel at 12 noon.

General, The Honorable S. C. Mewburn presiding.

Present: Drs. Trotter, Seccombe, Col. Thompson, F. P. Moore, Broughton, Cowling, Bothwell, Eaton, Ross, Fisk, H. S. Thomson, Conboy, H. Clark, Grant, Messrs. McNair and E. E. Reid.

The meeting was opened with introductory remarks by General Mewburn who told of his interest during the war in the work carried on by the Canadian Army Dental Corps, and that he was glad to be associated in times of peace with an organization carrying on a similar work.

The notice, calling the meeting, was taken as read.

Letters from J. E. Atkinson of the Star and Dr. Devitt of Bowmanville regretting inability to be present were read.

Secretary read the By-Laws, clause by clause, there being no additions or changes suggested.

It was moved by Seccombe, seconded by Clark, that the Charter and By-Laws be adopted. Carried.

Dr. Trotter presented a report of the Provisional Executive, which was A copy of this statement is attached.

The Secretary presented the financial statement which was adopted. A copy of this statements is attached.

Dr. H. S. Thomson outlined a scheme for a Dental Health Week. This was discussed by General Mewburn and Mr. E. E. Reid, who dwelt on the interest Life Insurance Companies are taking in any measures for prevention of disease and dissemination of Health Knowledge. He outlined the work of a committee of the Life Underwriters' Association towards this end that they were planning to ask the Insurance Companies to give financial support.

General Mewburn endorsed Mr. Reid's remarks speaking from his experiences as Minister of Militia.

Dr. Seccombe also discussed the proposal.

Dr. Conboy moved that this meeting instruct the incoming Executive to take up Mr. Reid's suggestions with a view to doing everything possible to co-operate with similar social agencies to prevent overlapping.

The next order of business—election of officers.

Moved by Seccombe, seconded by Trotter, that General Mewburn be President and Mr. E. E. Reid be Vice-President. Carried.

Moved by Conboy, seconded by Clark, that E. A. Grant be Secretary-Treasurer. Carried.

Moved by Conboy, seconded by Broughton, that Thorne, Mulholland, Howson and McPherson be auditors to this association. Carried.

Election of Executive Committee

It was decided that the three officers be members of the Executive ex-officio and that the Provisional Directors be re-elected and that these nine add six more to their number to make the fifteen required by the By-Laws.

Those to be added to be representative men from different parts of Canada.

There being no further business, the meeting adjourned.

E. A. GRANT, Secretary.

## REPORT OF PROVISIONAL EXECUTIVE

Mr. President and Gentlemen:—

The organization of a Council such as this was decided upon as a more comprehensive and efficient means of carrying on Oral Health work throughout the Dominion. This work in the past has been more or less spasmodic and scattered, having been carried on largely by the oral hygiene committees of the various Provincial Dental Associations. The work of these various committees was more or less local and lacked unity of purpose and scope, and also suffered from lack of adequate funds.

The C. O. P. A. was the only Dominion wide organization which attempted to carry on this work in a really large way, but, not being an official part of any dental association, it sometimes failed to receive the support it might otherwise have expected from these associations, but, on the other hand, it had the advantage of a continuous source of revenue from the royalties received from the sale of Hutax brushes and paste and was thus enabled to maintain an efficient organizer and instructor constantly in the field. It is now proposed by the organization of this Council to link together all the activities of all these committees and organizations in one harmonious whole to be governed by a combination of laymen, medical men and dentists and financed by funds donated by private individuals, dentists, dental organizations, commercial organizations or governments.

The C.O.P.A. has expressed a willingness to hand over the educational work it has been doing to this Council and also to assist it financially. It has also agreed to let this Council make use of the services of its publicity officer, Dr. Harry Thomson.

We would suggest the appointment of a committee of two or three men from this Council to negotiate some such arrangement with the C.O.P.A.

Your provisional executive has naturally had a great deal of organizing work to do in arranging for the charter and preparing the by-laws and preliminary prospectus.

This work was followed by efforts to enthuse the members of the dental profession on behalf of the Council and to an organized effort to secure a money grant from the Dominion Government.

Though this latter effort failed at this time partly owing to the unavoidable lateness of our campaign yet we feel that we have sown good seed for future harvests.

A thorough discussion of ways and means of securing assured sources of revenue would be very helpful.

An endeavor should also be made to decide upon the most efficient and satisfactory method for carrying on our work of educating the public.

Dr. Harry Thomson is prepared to outline to the Council a plan for a proposed mouth health week in a city such as Toronto and we would welcome your candid criticism of same.

The Secretary-Treasurer will read a statement of our finances. We trust every member will take an active part in the proceedings of this meeting and will not hesitate to ask questions. Humbly submitted on behalf of your provisional executive.

W. CECIL TROTTER, Chairman,
Provisional Executive Committee.

## CANADIAN DENTAL HYGIENE COUNCIL

Financial Statement

| | |
|---|---|
| RECEIPTS | |
| Contribution from Sir Edmund Osler | $100.00 |
| Dental Hockey Club of 1920, through Dr. A. D. A. Mason | 200.00 |
| Ontario Dental Association | 1000.00 |
| From dentists in response to circular letter | 179.55 |
| | $1479.55 |
| DISBURSEMENTS | |
| Legal expenses of incorporation | 75.00 |
| Government registration fee | 15.00 |
| Printing | 150.45 |
| Travelling expenses—(four trips to Ottawa) | 127.05 |
| Postage | 37.00 |
| Stenographic assistance | 16.90 |
| Bank discount and exchange | 5.35 |
| Balance on hand | 1052.80 |
| | $1479.55 |

E. A. GRANT, Secretary-Treasurer,
Canadian Dental Hygiene Council.

MEMORANDUM OF AGREEMENT of the CANADIAN DENTAL HYGIENE COUNCIL made this fifth day of February one thousand nine hundred and twenty-four.

WE, the undersigned, hereby severally agree each with the other to become incorporated under the provisions of the Companies Act and amendments as a corporation without share capital and that the by-laws and regulations relating particularly to the organization and conduct of the Council shall be as follows:—

### I.—NAME.

The name of this Association shall be "The Canadian Dental Hygiene Council" hereinafter called the "Council."

## II.—OBJECTS.

The objects of the Council shall be those set forth in the Letters Patent incorporating the Council.

The Council shall be carried on without pecuniary gain for any of its objects.

## III.—MEMBERSHIP.

The members of the Council shall consist of the following:—

(1) The original incorporators thereof.

(2) The President and Secretary from time to time of such Provincial association or organization as may be recognized by this Council together with such other persons as may be nominated by such Provincial association or organization to the number of five in the case of each of the Provinces of Quebec and Ontario and to the number of two in the case of each of the remaining Provinces of the Dominion of Canada.

(3) Such persons as may be from time to time President, Secretary and/or Treasurer of this Council.

(4) The President and Secretary from time to time of the Canadian Dental Association and such other persons as may be nominated by such Canadian Dental Association to the number of nine, one representative from each of the Provinces of Canada.

(5) The representative or representatives of any affiliated association or organization which may be by resolution of the Council or of the Executive Committee hereinafter referred to invited to appoint a member or members of this Council from time to time.

(6) Such other persons, associations or corporations as may by resolution of this Council or of the said Executive Committee be invited to become members of this Council.

(7) Persons being members of this Council by virtue of their office shall be members while holding such office. Persons appointed by other associations or organizations shall be members until notice is received by the Council of the appointment of their successors. The membership of others shall continue until their death or resignation.

(8) Provided however that any member whose adherence is no longer desirable may be retired by a two-thirds vote of those present and voting at a meeting of the Council or Executive Committee duly called for the purpose; said two-thirds, in the case of the Executive Committee to include at least one-half of the total membership of said Committee.

## IV.—MEETINGS OF COUNCIL.

(1) There shall be an Annual Meeting of the Council on such date (not later than the 30th day of June in each year) and at such place as the Executive Committee hereinafter provided for may direct.

(2) The business of the Annual General Meeting shall be to receive the annual reports of the business of the Council, to elect the Executive Committee hereinafter provided for, to appoint an auditor or auditors who must be a chartered accountant, to settle the policy and budget of the Council for the ensuing year and to transact such other business as may be presented at such Annual General Meeting.

(3) Special meetings of the Council may be called at any time by the Executive Committee and shall be called by the Executive Committee at the written request of thirty members of the Council stating the objects of the meeting.

(4) Notice of all Annual or Special Meetings of the Council shall be given by mail addressed to the members at their last known place of residence as shown by the books of the Council; such notice to be mailed at least two weeks prior to the date of the meeting. The accidental omission to give notice of meeting to any member shall not invalidate the proceedings.

(5) There shall be held a General Meeting of the Council within one month after the date of the Letters Patent incorporating the Council which shall have and exercise the powers of an Annual General Meeting.

## V.—EXECUTIVE COMMITTEE.

(1) There shall be an Executive Committee of fifteen members to be elected by the Council at its Annual Meeting and shall include the President, Secretary and Treasurer of the Council.

(2) The Executive Committee shall take office and hold its first meeting at the close of the session of the Council at which it is elected, and shall hold office until its successor is elected. Casual vacancies in the Executive Committee may be filled by that Committee.

(3) The affairs of the Council shall be vested in the Executive Committee and the Executive Committee may exercise all the rights, powers, authorities and privileges of the Council when the Council is not in session.

(4) The Executive Committee may appoint sub-committees to exercise such rights, powers, authorities and privileges as the Executive Committee may determine.

(5) It shall be the duty of the Executive Committee to present to the Annual Meeting of the Council a report of the work of the past year and a recommendation as to the policy and budget of the Council for the ensuing year.

(6) The first or Provisional Directors of the Council shall constitute and have the powers of the Executive Committee until the first General Meeting of the Council.

(7) The Executive Committee may appoint such officials paid and unpaid and incur such expenditures as it may deem advisable for the purpose of carrying out its work.

## VI.—OFFICERS.

(1) The officers of the Council shall include the President, Secretary and Treasurer and such other officers as the Council may from time to time elect.

(2) The Secretary shall have the custody of the seal of the Council and shall certify all documents requiring certification issued by the Council.

(3) The paid officials of the Council shall be employed by and be answerable to the Executive Committee and shall, in the absence of agreement to the contrary be employed only during the pleasure of the said Committee.

## VII.—SEAL.

The seal of the Council shall be in such form as the Executive Committee shall determine.

## VIII.—FINANCIAL YEAR.

The financial year shall end on the 30th day of April in each year.

## IX.—AUDITORS.

One or more chartered auditors shall be appointed annually at the Annual General Meeting of the Council and all accounts and other records relating to the finances of the Council for its fiscal year shall when presented to the Annual Meeting be accompanied by a certificate and report of the auditor or auditors.

## X.—ALLIED ORGANIZATION.

(1) The Council may from time to time promote, organize and assist Provincial, local or other associations or organizations having objects altogether or in part similar to those of the Council and whether auxiliary to or independent of the Council, and whether incorporated or unincorporated and may permit such associations or organizations to designate themselves by names indicating a connection with the Council without thereby becoming liable for the obligations of such associations or organizations.

(2) Upon the organization or recognition of any such association or organization it shall thereupon become entitled to the rights provided therefor in this by-law, but such recognition shall continue only during the pleasure of the Council, and upon a resolution being passed by the Council withdrawing its recognition of such association or organization, the rights of such association or organization hereunder including its right to a name indicating a connection with the Council shall thereupon cease and determine.

(3) Provided however that no such rights shall accrue until the passing of a formal resolution conferring the same, and then only on the terms and conditions of such resolution which terms and conditions may embrace any matter or thing whatsoever deemed advisable by the Council.

## XI.—FUNDS.

The funds of the Council shall be raised by Government grants, donations and subscriptions from individuals or organizations.

There shall be no fees charged for membership in the Council.

## XII.—BANK ACCOUNT.

The Bank Account of the Council shall be kept in such Bank as the Executive Committee may from time to time determine, and all cheques, drafts, acceptances, promissory notes or other negotiable instruments made or given in respect thereof whether by way of overdraft or otherwise shall be signed on behalf of the Council by such persons or officials as the Executive Committee shall from time to time determine.

## XIII.—EXECUTION OF DOCUMENTS.

All documents requiring formal execution by the Council shall be signed and the seal of the Council affixed thereto by the Secretary, the Chairman and/or such other persons or officials as the Executive Committee shall from time to time determine.

## XIV.—REGULATIONS AND AMENDMENTS.

(1) Provided the same do not conflict with this by-law, the Executive Committee may pass such by-laws, rules and regulations as it may deem necessary or advisable for the general conduct and management of the business affairs, property and estate of the Council.

(2) These by-laws and any additions hereto or amendments hereof may be amended at any annual or special meeting of the Council duly

called for considering the same and may be amended by a two-thirds vote of the members present and voting without notice but any such variation or amendment shall not be in force or acted upon until the approval of the Secretary of State for Canada has been obtained as provided by the Dominion Companies Act.

IN TESTIMONY WHEREOF we have hereunto set our hands and affixed our seals.

WITNESS:—

| | |
|---|---|
| P. L. Grimshaw | S. C. Mewburn, per John Row Marshall his attorney |
| F. A. Cook | Arnold Denbow Alfred Mason |
| F. A. Cook | Horace Eugene Eaton |
| F. A. Cook | Frederick Joseph Conboy |
| F. A. Cook | W. Cecil Trotter |
| F. A. Cook | Wallace Seccombe |
| F. A. Cook | Edmund Alexander Grant. |

## Federation Dentaire Internationale

In accordance with the decision taken at Luxemburg, last year, the next meeting of the F.D.I. will take place in Geneva (Switzerland) from 2nd to 6th of August, 1925.

Among the subjects to deal with we may mention: the preparation of the organization of the International Dental Congress of Philadelphia in 1926, the proposition of Revision of rules and regulations of the F.D.I., discussion on the reports of Commissions. Sufficient time will be allowed to the different Commissions for their work and the Presidents of the same are hereby requested to kindly suggest to the Adjoint Secretary the questions they wish to be mentioned on the agenda of Commissions.

Shortly summarized the programme of the session is temporarily established as follows:

Sunday, August 2nd, 2.30 p.m.—Reception by the local Committee.

Monday, August 3rd, morning—Opening meeting. Afternoon—Executive Council.

Tuesday, August 4th, morning—Meeting of the Commissions. Afternoon—Meeting of the Commissions.

Wednesday, August 5th, morning—Meeting of the Commissions. Afternoon—Executive Council. Evening—Banquet.

Thursday, August 6th, momrning—Executive Council.

The present programme is but a *provisional* one, which may be substituted by a *definitive* programme, and we shall not omit to send you the same in due time.

## Hot Stuff!

To the Ottawa Dentists:—

Read this if you dare and look me in the face and say that you have done your duty by the Eastern Ontario Dental Association.

Note This:—

1. Eastern Ontario has, to represent No. 1 District just one lonely Dentist on the Board of R.C.D.S. Do you know how many he repre-

sents? When was the ratio of representation of Dental population last looked into and revised or was it ever considered since 50 years ago? Chat it over at Smiths Falls.

2. Is Toronto really the Mecca of the Ontario Dentistry and the only place a real bang up Convention can be carried through? Wouldn't you be ashamed to admit that? Come to Smiths Falls on Sept. 29th and 30th and let us see what we can do for a 1925 Dental Convention of the Eastern Ontario Dental Association.

3. Are we going to have equal rights as a profession and be on the same footing as all other faculties in Toronto University? Isn't that one of the reasons why the R.C.D.S. is located in Toronto, the University City? Talk it over in Smiths Falls.

2. Is the R.C.D.S. a large enough concern right now or will the profession deem it wise to indefinitely add to it and increase the amount of money invested on "Plant" in an inexpensive part of a large city under increasing overhead and require the youth from the whole province to reside there 5 or 6 years should they desire to enter the profession of Dentistry? Bring up the point at the E.O.D.A. at Smiths Falls.

5. What was all this argument in the Toronto press about in connection with the R.C.D.S.? Let's chat that over too at the E.O.D.A. Sept. 29th and 30th.

6. Have you an automobile? If you have throw your Golf Clubs in and if you're married and your wife plays that outdoor game of patience invite her to dig up her clubs too. If the car is not yet full ask some Ottawa dentist who you think would care to come and in 2 hours you can be in Smiths Falls. We're going to watch for the "Buddies" who have cars and don't show up and bring some one along.

7. Let me know if you have any difficulty filling your car and further I will appreciate it if anyone, who would care to motor and has no car, would let me know so that I could endeavor to allocate them with some of the many who are going to tell me they have room for another.

8. If you do not care to bring golf clubs bring anything you care to. Come prepared to make a speech either at or after the sessions.

Thank you gentlemen if you have read this.

Dr. Cummer is coming from Toronto with something good. More information later.

*O. K. GIBSON.*

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## Report of the Dental's Legal Protective Association of Ontario

At the last meeting of the Ontario Dental Association held one year ago the "Advisory Committee" was authorized to approach the Board of Directors of the R.C.D.S. and ask its co-operation in organizing in Ontario an association for the purpose of advising and defending the members of the dental profession, against unjust and frivolous charges of malpractice, or any cases affecting the honor and reputation of the dentist.

The Board of Directors when approached on this matter readily expressed approval of such an organization and promised its co-operation as far as it could legally do so. A member of the Board, Dr. W. G. Thomp-

son, was appointed on the committee as representing the Board. This augmented committee was given the full sanction of the Board to proceed with the organization.

The committee at once proceeded to organize the Protective Association along the lines proposed to the Convention a year ago.

In the month of October, 1923, a circular letter was mailed to every dentist in Ontario, concisely explaining the objects and legal scope of the organization, and requested those who wished to take advantage of such protection to sign and return an enclosed membership card with annual fee of $3.00.

The response to that letter was highly satisfactory. A total of 462 dentists registered and these formed the membership for the first year.

The Council completed the formation of a definite constitution with by-laws and after submitting it to legal counsel for revision sent a copy to every dentist in Ontario.

The active operations of the Association commenced November 1st, 1923, and the first year will thus end October 31st, 1924.

Dr. W. E. Willmott, Secretary of the Board of Directors, consented to act as secretary-treasurer of the Association. Dr. Willmott will thus be able to send out the Annual notice for the fees of the Association at the same time as the College notices are mailed.

The members of the Executive Committee are happy to report that the results of the Association's operations for the first six months are most satisfactory.

During that period the Committee has dealt with some 15 cases of a more or less serious nature and out of these 15, so far, not one case has had to be defended in the Courts by the council.

The legal counsel agreed upon and appointed by the committee is Mr. I. F. Hellmuth, K.C., of Toronto.

So far we feel the association has fully justified its existence. In the more serious of the unreasonable cases that were threatened, when the would-be litigants found they were face to face with a fully organized defence conducted by the legal counsel above named, they thought more seriously of the matter.

The protection of the good name and reputation of the dentist is of such vital importance, that we are convinced every practitioner in Ontario should be a member of this Protective Association.

The fee is very small, being only $3.00 per year. The larger the membership the better service the Association will be able to render the profession.

Those who are not members may be enrolled at the regular registration office, by signing the membership card and paying the fee of $3.00.

In adopting this report the members of the Association are asked:

(1) To grant your approval of the plan of organization and the method of "carrying on" as adopted by the committee to the date of this report.

(2) That the constitution as printed and mailed to the members be approved.

(3) That the appointment of I. F. Hellmuth, K.C. as General Counsel of the Association be endorsed.

(4) That you appoint the officers and executive committee for the coming year as called for in the Constitution.

All of which is respectfully submitted.

To the President and Members Ontario Dental Association.

Gentlemen:—Your Nominating Committee beg to nominate the following to the various offices and standing committees as called for in the constitution:

Hon. Pres., F. J. Conboy; Pres., Col. W. G. Thompson; Vice-Pres., J. C. Devitt; Archivist, C. A. Kennedy; Sec. and Treas., J. A. Bothwell.

Board of Governors:—

T. F. Campbell of Galt, A. W. Ellis of Toronto, in place of E. L. Gausby and C. E. Brook, retiring; and A. W. Winnett of Kingston, in place of J. C. Devitt.

Oral Hygiene Committee:—

F. J. Conboy, H. E. Eaton, A. W. Ellis, F. C. Husband, J. C. Livett.

Advisory Committee:—

R. G. McLaughlin, Harold Clark, A. D. A. Mason, R. G. McLean, Wallace Seccombe.

Respectfully submitted,

R. J. Sprott,
Nominating Committee.

## Dental Meeting in Winnipeg, May 12-15

The Dental Society of Western Canada will be revived again at a meeting to be held in Winnipeg May 12th to 15th, 1925. Dr. Weston A. Price and Dr. Maers will be two of the main essayists. There is no part of Canada where a dental society can be more successfully carried out than Winnipeg. It is so located that it can draw from Ontario and the middle West of both Canada and the United States.

## The Canadian Dental Association and the Maritime Provinces

In planning your summer vacation for 1926 don't forget that the meeting of the Canadian Dental Association will be held in Halifax and that the Maritime Provinces, including New Brunswick, Nova Scotia, and Prince Edward Island, will *co-operate* in arranging a very attractive programme.

Although it is somewhat early to make any definite announcements with regard to the nature of the meeting, the matter of arranging for the attendance of prominent members of the International Dental Congress which meets in Philadelphia in August, 1926, is under consideration.

It is also rather early to arrange definite dates, but, if it should be held in August either before or after the I. D. C. it will be possible to arrange your itinerary so that it may include both the Halifax and Philadelphia meetings.

It is proposed to inform the members of the profession through the columns of the Dental Journals and otherwise, what progress the committees are making, *and members are requested to forward suggestions as to dates, nature of programme, etc., to our Secretary as early as possible.*

*Your co-operation is needed and will be welcome.*

GEORGE KERR THOMSON,
*President of the C. D. A.*

## Montreal Dental Club

President: J. Common, 14 Phillips Square; Vice-President: F. H. A. Baxter, Lindsay Building, St. Catherine St.; Secretary-Treasurer: A. L. Walsh, Dental Clinic, Montreal General Hospital. Committee: Dr. F. G. Henry, 444 Guy Street; Dr. D. P. Mowry, 127 Stanley Street; Dr. R. W. Edmison, 14 Phillips Square; Dr. A. N. Jenks, Medical Arts Building; Dr. R. Cleveland, 14 Phillips Square.

## Mount Royal Dental Club

President: Dr. A. S. Solomon, 121 Bishop Street; Vice-President: Dr. N. Titleman, 1183 St. Lawrence Blvd.; Secretary: Dr. G. F. Franklin, Dental Clinic, Montreal General Hospital; Treasurer: Dr. B. L. Hyams, 14 Phillips Square.

## Resolution

*Whereas*—It has pleased our Heavenly Father to take from our midst a new member and friend Dr. Norman Buchanan Forrester, now therefore be it

*Resolved* that with his sudden death at the beginning of his years of best usefulness we feel a sense of deep loss and be it further

*Resolved* that a copy of these resolutions be spread on the minutes of the Vancouver Dental Society, a copy be sent to his family, and a copy to Oral Hygiene, and The Dominion Dental Journal.

This is to officially advise you that the sixty-seventh annual session of the American Dental Association will be held in Louisville, Kentucky, September 21-25, 1925.

The next annual meeting of the Kentucky State Dental Association has been changed to meet next September 18-19, 1925, in a business session rather than a regular programme of April 6-7-8, as previously announced.

*WM. M. RANDALL, Sec'y.*

The biennial election of representatives from the dental profession to the Board of Directors of the Royal College of Dental Surgeons resulted as follows: Dr. S. S. Davidson, Ottawa; H. Irvine, Lindsay; R. Gordon McLean, Toronto; W. G. Thompson, Hamilton; W. M. McGuire, Simcoe; E. E. Bruce, Kincardine; S. M. Kennedy, London, and A. D. A. Mason, Toronto, representing the faculty council of the school of dentistry.

## Dental Association Elect Their Officers

The annual meeting of the Manitoba Dental Association was held on Monday evening at the Fort Garry hotel, Dr. H. A. Croll of Souris, the president, in the chair. There was a large attendance and several matters of importance were discussed, including a provincial convention to be held in the early summer, the establishment of a Dental Reference library and Oral Hygienists. The three retiring members of the board, Drs. H. J. Merkley and J. F. Morrison of Winnipeg, and Dr. E. H. Clark of Minnedosa were re-elected to the board.

At the subsequent meeting of the board the following officers were elected: Dr. J. F. Taylor, president; Dr. C. P. Banning, vice-president; Dr. F. F. Morrison, secretary; Dr. H. J. Merkley, registrar-treasurer.

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## Academy of Dentistry, Toronto

Osler Hall was filled to capacity Nov. 5th, 1924, to hear Dr. Fox of Detroit discuss "The Dentist's Responsibility to His Patient." The President, Dr. Arthur Day, occupied the chair.

The essayist said that when it became generally known through the press that many systemic diseases such a rheumatism, anemia, and neuritis might be caused by diseased teeth there was a tendency to have teeth extracted on suspicion alone, but thanks to the researches of such men as Rosenow, Billings, Price and others, and a more thorough knowledge of how to make a dental diagnosis, good teeth need not be extracted to-day. Every dark area shown in an x-ray picture does not mean disease. The essayist made it clear that there is often great difficulty in determining the real significance of an x-ray picture. It is in reading pictures the great advances of the past few years have been made. While the essayist acknowledged the frequency with which general diseases may be caused by diseased teeth he also pointed out that few general diseases occur without showing signs of their presence in the mouth. It was in this field he wished to direct the profession's attention, especially did he point out that the dentist by his close observation of the mouth had the first opportunity of seeing the beginnings of Cancer. Dentists, he said, must be prepared to know the significance of the many signs of general disease in the mouth and warn the patients to consult their family physicians. The dentist's responsibility goes far beyond the mere restoration of decayed and lost teeth. Dr. C. E. Pearson and Dr. A. E. Webster continued the discussion which was closed by Dr. Fox after which refreshments were served in the adjoining rooms of the Academy of Medicine.

# Correspondence

## GREEN STAIN.

144 King St. W., Kitchener, Ont., Oct. 24, 1924.

Dr. A. E. Webster, Toronto.

Sir.—I have just finished the Dental Survey of the Kitchener Public Schools. During my survey I noticed that wherever there was persistent green stain especially on the posterior and lower teeth that the tonsils were not healthy. Was this a mere coincidence or do unhealthy tonsils cause green stain and slimy saliva?

Several pupils who were bad last year have had their tonsils removed and their teeth cleaned and the green stain has not returned.

*Yours truly,*
*J. W. HAGEN.*

*Editor.*—Will some reader enlighten us on this subject.

---

Kitchener, January 10, 1925.

Dr. A. E. Webster,
Royal College of Dental Surgeons, Toronto.
Dear Dr. Webster:—

May I submit the following case.

"Mrs. J. A. B., age 25. Bothered with ulcers in mouth since a young girl; gradually they got worse until to-day she has from six to ten, all about the size of a lead pencil except one, just inside the lower lip. This in all is about the size of a quarter, puffy and sort of bulbous with a nasty groove in centre at least 3/16 inch in depth. This one swells occasionally, but has been there constantly for seven months.

Treatments have been all caustic but no particular improvement shown—at the most they might disappear for a few days and then return as badly as ever.

General health is good, blood test, according to report from local M.D., O.K.; appetite good.

Gave birth to a baby five months ago with no change before or after to mouth. All bad and doubtful teeth extracted two months ago; no change."

Anything you might have to suggest would be greatly appreciated.

Yours sincerely,
*R. O. WINN.*

# Editorial

EDITOR:
**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

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Vol. XXXVII TORONTO, FEBRUARY, 1925 No. 2

## Copper Amalgam as a Root Filling Material

In the January issue we published a report of the researches in filling materials which were done in the department of Dental Research of the University of Toronto. Among these is to be found one on the antiseptic properties of Copper Amalgam. Of all the materials tested it is the only one which has permanent antiseptic properties. Even the copper cements and oxychloride of zinc are very limited in their antiseptic properties. When these properties were made known to a number of dentists a few years ago some among the audience conceived the idea of filling root canals of teeth with copper amalgam instead of the antiseptic materials which lost that power in a few months.

In this issue we publish an article on the subject from the work of Dr. F. C. Husband and Dr. G. A. C. Gunton. Both these gentlemen and perhaps others recognized the main difficulties or objections to the use of Copper Amalgam in root canals. First, the difficulty of insertion; second, the discoloration of the tooth tissue, and third, the difficulty of removal if a failure had been made in insertion. The answer to all these questions is made in the development of a special technique for this material and only filling the apical third or less and X-raying the root and filling before crystallization of the amalgam occurs, when it may be removed without difficulty.

Although this material can be placed in root canals just to the end and no farther and fully fill the root in its cross section and is of permanent antiseptic quality, which will act beyond where it is located, yet neither of the authors use it as a cure for alveolar abscesses. It is true, as may be seen in the pictures, that what appeared to be a rarified area at the apex is sometimes reduced in size and in some cases is obliterated, yet it is not

a cure for infected areas at apical ends of teeth as serum is for diphtheria or petroleum is for scabies, but it is a preventive and may in a number of cases help nature in her effort to rid herself of infection.

The experience of forty years in the use of copper amalgam has taught the profession that although it is antiseptic it is not sufficient of an irritant to vital tissues for this factor to be an objection. Copper amalgam may well be placed in the depth of a cavity and covered with silver amalgam or mixed in certain proportions with silver amalgam for fillings in which solution of the copper alone would occur. We earnestly commend to our readers a careful examination of the report of the researches and a trial of the methods of practice based upon them.

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## Notes

Over a hundred women dentists attended the recent meeting of the Chicago Dental Society.

Dr. W. B. Amy, Toronto, addressed the Oshawa Ontario Dental Association, January 28th, 1925.

Dr. Weston Price addressed the Academy of Dentists, Hamilton, on his trip to Toronto, Tuesday, January 19th, 1925.

A Mr. Kirk, Cumberland Street, Toronto, says he has a dental patent covering Canada, Newfoundland and the United States. It is said to cover a soft vulcanite.

Dr. F. J. Conboy has been appointed Provincial Director of Dental Services in Ontario. This is a wonderful step in advance. Though long delayed, it is a gratification to the profession because while it is associated with the department of health and under the direction of the Minister of Health it is not under the immediate direction of any other authority. In other words the position bears the same relation to the government as other services.

The profession has been honored by the appointment and should leave nothing undone to make it a success. Dr. Conboy is to be congratulated for accepting such burdens of responsibility for his profession. As a public servant Dr. Conboy has few peers and no superiors.

Enrollment at the University of Pittsburgh School of Dentistry yesterday reached 1,100, surpassing the former high mark of a year ago by over 200. The school has been the largest dental institution for a number of years. Twenty additional faculty members have been added to the staff of instruction to accommodate the phenomenal increase in students this year. Classes are being held at every available place and at earlier and later hours than the regular university schedule provides for, as well as on Saturday afternoon, in order to care for the great increase in the freshman class.

The freshman class exceeds all others in enrollment, having 400 to its credit last night. Last year the total registration was 278. A number of other applicants for membership in the class postponed their entrance until next year and are taking a year of pre-dental work this year. Beginning next year there will be a pre-requisite of one year's collegiate work.

The enrollment in the sophomere class is 260, a gain of 5 over last year. The junior class has a total of 209, an increase of 18. The senior class also has a substantial increase. The number for this year is 222; the enrollment last year was 198. All of the classes are filled to the limit. Dean

H. E. Friesell stated that a smaller enrollment in next year's freshman class, which is expected because of the pre-dental requirement, would relieve the congestion appreciably.

Recent experiments and later views on the eclotogy of dental caries tend toward giving the systemic factors more importance than the writers of a few decades ago. The occurrence of dental caries is not fully explained by local manifestations. The modern idea is that the calcium content of the teeth and bones is not always at the same level and hence may in some way resist or be attacked by caries at different times.

John Albert Marshall, D.D.S., Ph.D., San Francisco, found that a diet deficient in calcium and phosphorous for dogs during the development period showed deciduous teeth to be too long retained, irregular and defective in enamel. In addition to this, it is believed that a deficient diet caused the complete de-calcification of the denture of several teeth, leaving the enamel cap intact. All other factors of a perfect food were present except the calcium and phosphorous.

Dr. F. E. Bennett, St. Thomas, Ontario, who has through his energies along the line of horticulture had the name flower city applied to St. Thomas, has been giving lectures in Toronto on flowers and how to interest the public in horticulture.

Dr. Marshall, in closing the discussion on a paper entitled Biology and Nutrition in Orthodontia:

I do not know really what a correct diet is; nobody knows that. But the following facts are well recognized: First, that we should eat food in which active metabolism is going on, e.g., certified milk, oranges, apples, and similar fresh fruits and vegetables; second, that these foods should contain the food accessories which favor calcium metabolism; and third, that the food is properly prepared and not cooked to death. These factors may show some direct correlation and explain why Johnny Jones responds at once to orthodontic treatment, while Billy Smith, with every advantage in the way of food, does not respond at all. Many of these things are the problems that your internist and dietitian are struggling with today. They are often solved with a change of diet or environment, etc.

The sunlight of outdoor is better than that of indoors. When we go into a solarium, we find a beautiful big room enclosed with glass. While giving the patients the best advantages, it might be pointed out that every window glass contains lead, which acts as a filter and which thus filters out and absorbs a portion of the beneficial rays of light.

## Obituary

"There is no death
What seems so, is transition
This life of mortal breath,
Is but the suburbs of the life elysian
Whose portals, we call death."

On December 7th the curtain swung backward for a moment, and there entered into "the beyond," Dr. J. B. Morison, a man, respected and beloved, wherever he was known.

Dr. Morison was born in Melbourne, Quebec, fifty-six years ago. He was educated at St. Francis College, Richmond, coming to Montreal in 1896. He studied dentistry in this City, graduating in 1900.

He was for many years associated in practice in Montreal with his brother, Dr. C. F. Morison.

He went overseas, in 1915, and served, as a captain, in the 9th Field Ambulance, until the end of the wa Those who knew him overseas, speak of him as "a fine type of Can in soldier." It was no surprise to anyone, in his great circle of frien that he was mentioned in dispatches for gallantry.

It was a great privilege to be able to count Dr. J. B. Morison as a friend. He had a rich sense of humor, but never condescended to vulgarity of any kind. In the highest and best sense of the word, he was a Christian Gentleman.

On the formation of the Department of Dentistry in McGill University in 1909, he became professor of Orthodontia, and held that position until his death.

He was a friend and inspiration to every student, whose privilege it was to listen to his lectures.

While the sympathy of all Dr. Morison's old friends will go out to the surviving members of the bereaved family, in a very especial manner will sympathy go out to Dr. C. F. Morison. The bond of sympathy between these two brothers, far surpassed that usually existing, even between members of the same family. For many years, these two men lived together and they were all in all to each other.

In 1919 Dr. Morison married Miss Christine Bogie of Saranac Lake. To the widow, in this her time of great sorrow, the sympathy of her own friends, and those of her late husband, go freely out.

The great sea of flowers which covered the casket on the day of his funeral spoke in some small measure of the multitude of people who knew and highly prized Dr. Morison. The community in which he lived, the profession which he adorned, all are poorer because of the passing of this modest unassuming Christian Gentleman.

"Gone for a moment only,
From this room, into the next,
We too, shall go in a moment,
What time have we to be vexed."

*A. W. Thornton.*

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Dr. Norman B. Forrester was killed in an automobile accident on January 1st, 1925, in his home town of New Westminster, B.C., where he was practising. He graduated from the University of Toronto in 1923, and was twenty-six years old.

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**OFFICES TO RENT**—Royal Bank Building, 2 Bloor Street East, Office space, first floor, about 600 feet, Rental $50 per month. Telephone Randolph 0086.

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**FOR SALE**—City Practice For Sale; Centrally located; low overhead; doing fair business; present occupant leaving for Detroit. Box 15, Dental Journal, 73 Richmond W., Toronto.

Dominion
Dental Journal

Vol. XXXVII TORONTO, MARCH, 1925 No. 3

# Some Thoughts on Dental Periclasia

*Marjorie Milne, D.D.S., Toronto. Read Before the '19 Study Club.*

In consideration of what might be of interest to you I have decided to review briefly the histology of the pericementum and describe certain degenerative changes taking place in it and our treatment.

Noyes has given as a definition "The periodontal membrane is that tissue which fills the space between the surface of the root and the bony wall of the alveolus, surrounds the root occlusally from the border of the alveolus and supports the gingivus extending into it." The periodontal membrane or pericementum occupies a very narrow space between the cementum of the root and the alveolar process and in older people it becomes even narrower. It is largely composed of groups of fibres, the principal fibres which serve to attach the root to the socket while the interstitial tissue fills the space between the fibres, blood-vessels and nerves. The first group are the gingival fibres, they pass upward from the cementum into the free margin of the gum where they are closely interwoven with one another and serve to hold the gum closely to the enamel, thus if for any reason these fibres are broken or destroyed the subgingival space is left open for deposits of calculus and other debris. The alveolar crest group pass from the cementum outwards to the crest of the alveolar process. The third group are the horizontal, they pass from the cementum into the alveolar process starting just below the crest. The oblique group which make up most of the fibres of the pericementum are inclined occlusally and cushion the tooth against the atress of mastication. The apical group are arranged in cone-shaped bundles surrounding the apex of the root and hold it in the centre of the socket. On the approximal sides the transeptal fibres arising from the gingival portion of the tooth pass from the cementum of the mesial surface of one tooth over the alveolar crest into the distal of the next tooth. They are a very strong group of fibres and hold the contacts in relation together with the horizontal fibres. Where there is a deep pocket and these fibres have been destroyed it is difficult to hold a contact the tooth having a tendency to move away from the pocket. This movement is generally thought to be due to the elasticity of the fibres but it is caused by the pressure from the inflammatory processes.

The blood supply of the pericementum comes from three different sources, the first vessels coming in about the apical space and passing upward parallel with the length of the tooth to the crest of the alveolar

process connecting with vessels from gingiva. Secondly there are the blood vessels which pass over the alveolar crest downward into and are parallel with the pericementum. The blood vessels coming from the alveolar process through the Haversian canals are the third source of blood supply. There is rich anastomasis of all the blood vessels and they have minute lymphatics attached to their outer walls, the lymph course being in the opposite direction to the arteriole circulation. The lymphatics are the drainage system of the peridental membrane by means of which the waste material or products of any pathological disturbance are carried off. The nerve supply enters the pericementum in company with the blood vessels and generally follows them in their course. Fibroblasts are found everywhere between the fibres and cementoblasts cover the surface of the root but lie within the peridental membrane. They maintain the vitality of the cementum. If the fibres have been stripped from the cementum they can be reattached only by a new layer of cementum being formed and this cannot be brought about unless the cells lie in direct contact with a cementum which is healthy and vital. The osteoblasts cover the surface of the alveolar wall, they are the active areas of bone formation and osteoclasts appear and disappear according to the condition, they are tissue destroyers whether it is bone or fibrous tissue. The soft tissues or gingival about the crowns and servical portion of the teeth rest on the alveolar crests. The epithelium is of the stratified squamous type which is very much thicker and the cells numerous and close together form the crest of the gingiva to the marginal gingiva while finger-like papillae of connective tissue pass into epithelium becoming longer nearer the crest of the gingiva and each papillae has its tiny arteriole which terminates in a capillary loop returning as a vein. The gingiva is really the protective tissue of the pericementum and with its rich blood supply rapid healing or repair can take place. The section of the gingival over the enamel has an epithelium of much thinner structure having fewer layers of cells and much thinner structure, occasionally breaks occur making it the weakest place in the defence of the pericementum. Before infection can take place there must be some lowering of the resisting powers of the tissue which may be entirely local as the packing of food between two teeth or deposition of calculus due to incorrect mouth hygiene or of a constitutional nature such as diabetes where the tissues of the system have lowered resistance or a combination of the systemic and local. The lowered resistance of the gum tissue allows infection to enter and this carried along the lymphatic course deeper into the pericementum. Degenerative changes occur in the blood vessels around the outer wall, they become thickened as a protection from the irritation and the surrounding tissue of the pericementum is slowly destroyed, the fibres being attached at the ends to the cementum and alveolar process but separated around the region of the blood vessels. Thus when the first fibres have been broken and a very small pocket formed this exposure allows re-occurring infection to destroy those fibre ends and vital cementoblasts. The fibres attached to the alveolar process disappear and if the inflammatory products enter the blood supply of the bone it will be sequestered or absorbed.

In a paper read by Dr. Noyes of Chicago published in the "Cosmos," February, 1920, he shows a degenerative process taking place in pericementum which he attributes to disturbances in the perivascular lymphatics resulting from infection but asserts infection has not been shown to

exist in the degenerative tissue although he believes degeneration is the result of infection. To quote his words "after studying many sections from a large number of teeth it became apparent that the first positive changes occurred in the interfibrous tissue. That is the slight amount of connecting tissue that normally fills the spaces between the principal fibres which pass in bundles from the cementum to the bone."

His slides and investigation go on to show that inflammatory products, later fill in the principal fibres pushing them aside and the blood vessels also show inflammatory reaction. Sections were also made showing tissue in further advanced stages demonstrating the bone became broken down even before there was pocket formation.

Dr. Box in his latest bulletin describes with slides changes in the structure of the pericementum he believes to be due to traumatic occlusion resulting in the rarefaction and destruction of the alveolar process and replacement by a degenerative form of fibrillar connective tissue. This condition is brought about by the reaction on the blood vessels and the nutritional disturbances resulting. Consequently we see that both Dr. Noyes and Dr. Box seem to argue that the first degenerative changes appear up in the infibrous tissue but Dr. Box assumes it comes as a result of traumatic occlusion whereas Dr. Noyes believes it comes as a result of infection. Pocket formation has been described and two other conditions in which degenerating results have taken place in the pericementum without pocket formation.

In our office if we have reason to suspect this condition if necessary we treat it surgically and grind the teeth where the condition demands it, but we depend a great deal on the Kromayer lamp which is really the bi-ultra rays produced from vaporized mercury and passing through a quartz applicator. These rays are longer wave length than the tri-ultra violet ray or X-ray and are the rays from the sun whose therapeutic action is valued so highly in treating eczema, tuberculosis and other systemic diseases. The bi-ultra violet rays have a strange germicidal effect on the tissues but are absorbed by the red blood corpuscles so to penetrate the gums, compression must be used to dehematize the area. The inflammatory reaction produced is a decided stimulant to new bone formation as well as a germicide. Besides the inflammatory reaction there is some other therapeutic action taking place which has not been thoroughly understood as yet.

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## Mumifying Paste

In a recent symposium published in the Dental Science Journal of Australia on pulp extrapation and mumification it would appear that mumification should only be used when the pulp cannot for some reason be extrapated. It would seem that to leave a part of the pulp alive under a mumifying paste is a mistake. Many x-ray pictures showed quite as few rarified areas at the apices of teeth whose roots were not fully filled as did those which showed to be filled. The general conclusion was that avoidance of infection and traumatism during the root treatment were two essential factors in success. The mumifying paste commonly used was alum, zinc oxide, thymol, glycerine: equal parts.

# Investing and Casting of Gold Inlays

*By J. J. Lavine, D.D.S.*

*Read before the '19 Dental Study Club, Toronto, Nov.,* 1924.

Since the discussion for this evening is the question of investing and casting of gold inlays, two very important links in the chain, which embrace the entire system of dental restorations known as the gold inlay or onlay as the case might be, it would be well to commence by a close examination of the means needed in the successful accomplishment of these two acts.

No matter how fine a preparation you have made of the cavity to receive the inlay, no matter how exacting you were in reproducing in the wax model all the details as to fine margins, contour contact, and conclussal markings, your efforts in making a restoration worthy of its name will prove to be of little or no avail if your investment compound or technique be faulty or if your burning out of the wax pattern and the forcing into the mould the molten metal in a manner and under conditions which are very often factors in making useless your previous endeavors.

Such, at least, were the sad experiences of your essayist until he has seen the light shed on the subject by the Chayes School. The information I am presenting to you this evening, I have gleaned at that Institution and from an exhaustive work on the subject by its founder, whom I hold in great esteem.

A great deal of the success in casting depends upon the quality of the mould... The compound used in making the mould must therefore possess the following properties:

1. It must be refractory, that is, it must be capable of resisting disintegration under heat of considerable degree.

2. It must possess a safety margin of pressure resistance at least double that of the amount required.

3. Because of accuracy required in the reproduction of fine lines, angles and margins, the compound must be one that will crystallize in such minute crystal formation as will enable these crystals to move into the finest lines and depressions of the pattern.

4. These crystals, however, must be of such shape that the hardened or set mass will present a structure sufficiently porous to permit of the escape of gases formed during the process of volatilization and during the introduction of the metal.

5. The compound must be capable of imparting a smooth surface to the mould but not at the expense of porosity.

6. Working qualities must be such that will afford sufficient time to carefully invest the pattern. It must be smooth, creamy, easy flowing and free from air cells.

A great many investment compounds are offered to the Profession but none of these possess all of the enumerated qualities in just the right degree and investigators are still in search of the ideal material. The nearest approach to this ideal compound is the Taggart Investment. Such great care is exercised in the manufacture of this material that taking the variations in temperature into consideration and allowing for these thermal changes, constant results may, invariably, be attained. Some precautions however, must be taken in using this compound. The powder must be

kept in a closed receptacle in a dry place not exposed to rapid changes in temperature, it must be mixed with water neither too cold nor too warm. The proportions of powder to water having been made constant by Taggart by means of the little balance, the variations of temperature and humidity may be taken care of by the addition of a few minims of water during excessively dry weather, and the diminution of the quantity of water in the same proportion during extremely humid weather. In no case is the variation greater than twenty drops or less than five drops. The plaster in the powder requires twenty-one per cent. of moisture to be thoroughly satisfied, and unless it is, it will not make a good binder, for when en-masse the plaster contains that proportion of water.

Perhaps all of you are familiar with the technique of mixing the compound. I will, however, run through it quickly. The large bowl of the balance is rather loosely filled with the powder, and the balance placed on the fulcrum. With a water syringe fill the small bowl with water of room temperature until balanced. Covering bowl containing the powder, pour the water into a large clean rubber bowl, then add the powder to this, compensate for weather conditions, and with a curved hard rubber spatula the powder is made to take up the moisture by agitating the mass. Now allow a minute to elapse before the mixture is touched again. This will give the plaster time to exhaust its gas making tendencies. The mass is again agitated and made to spread over the entire inner surface of the bowl. The latter is best accomplished by gently tapping the bowl, close to its base, on the edge of the work bench and rotating it after each tapping. This will bring to the surface the air cells and the concussions will cause their collapse. The time consumed in mixing should be no more than three minutes including the one for the plaster gas elimination, except when an automatic mixer is used the time is fully five minutes in which case better and more uniform results are claimed as the varying human element is entirely eliminated in the process of mixing.

With a very small badger brush a small quantity of the now creamy mixture is taken up and placed upon the wax pattern held on the crucible former and with a gentle but continuous stroke of the brush the investment is made to travel in close proximity of the wax pattern and deposited in and around every corner, line, and margin until the pattern is wholly enveloped in it. Take a medium grit file and draw it downward against the edge of the crucible former. This will jar the investment particles closer to the pattern. Then place the flask on the crucible former and allow the compound to run down into it along its walls and away from the pattern. It is now left undisturbed until crystallization takes place. In warm weather this is complete in from fifteen to thirty-five minutes depending upon the size of the mass, in humid weather forty-five minutes to one hour should be allowed. This condition may be recognized by the greyish white and silky appearance of the surplus present in the flask. Trim surplus off making bottom level with margins of the flask. The crucible former is then removed by turning it upon its seat towards the left and the sprue wire is disengaged from the wax pattern by slightly heating it over a small Bunsen flame.

Drying out of the mould and the burning out of the wax pattern.

Until some reliable automatic heating apparatus is readily obtainable each one of us engaged in inlay work will be obliged to make the best of the means at hand for the burning out process. A simple apparatus may

be constructed from a medium sized Bunsen burner mounted by a spider six inches in diameter. Over that place a piece of latticed steel surmounted by a sheet-steel tube lined with asbestos about eight inches high and three inches in diameter. For convenience of removing the tube, it should be provided with a handle.

The flask is placed directly over the burner, the tube adjusted over it, and the flame regulated to only about 1/5 its capacity so that it is slightly more than one inch below the flask and kept in this state for about ten minutes. Then the flame may be raised until it just touches the flask and kept there for a similar period. At this point the crucible will be found to be covered with a coat of carbon. The flame is given full capacity for three to five minutes. During this time the hydro carbons will burst into flame. The Bunsen flame is extinguished and the tube removed. The flask is carefully placed on a sheet of asbestos or slate but not on anything metallic, because the latter being a conductor of heat is liable to cause hair like fractures in the mould. It is well to remember that the less heat we employ the stronger our mould will be and the greater its resistance to internal pressure. Taggart wax volatilizes at a comparatively low temperature great heat, therefore, is not called for.

We are now ready to do the actual casting, but before doing so, let us first decide whether we should do it while the mould is hot or whether we should allow it too cool. In order to arrive at a logical decision on this question we will have to retrace our steps in the process thus far. Let us bear in mind that we are doing our work in a room of a given temperature. All our materials, instruments, patient and tooth are subject to that temperature. The cavity prepared, we soften the wax, put it into the cavity and it is caused to harden under pressure, it is chilled, while a force greater than its intermolecular attraction is upon it to prevent any change of bulk or form. Once chilled to proper size, and frictional fit of the cavity, no change can take place at that temperature. The carving is completed, the wax pattern invested in a compound, the powder and liquid, making up this compound are placed in a bowl or mixer at the same temperature the pattern has been subjected to right along. The compound contains so little active plaster that practically no heat is given off during the period of crystallization. The wax pattern in this mould therefore remains unchanged. Once the wax is crystallized around the unchanged wax pattern we are justified in our belief, that we have a normal mould.

So far we have done nothing towards creating any change in the wax pattern or the mould in which it is imbedded.

In subjecting our flask to heat we make a definite step in bringing about a definite change. Refractory materials expand or contract as the square of the mass but since our patterns are never cubes, balls or flat surfaces we shall find at one point of circumference of the mass surrounding an inlay to be ¼ inch thick and 1¼ inch high. At another point ⅜ inch thick and 1¼ inch high. At a third, fourth or fifth point it will be found to be different again. Where the compound is thinnest in bulk it is nearest the brass flask, and the influence of the metallic ring as an aid in distorting the compound more at that point, will, in a hot flask, make itself felt more decidedly. On the other hand, thicker parts of the mould would be less likely to be influenced by the metallic ring and that therefore the expansion of that part of the mould would be most likely to take place in accordance with the recognized laws which govern the minerals

which make up the mass. Therefore our mould is unequally expanded, in other words distorted. In order to get a normal mould again it is necessary to allow it to cool down to room temperature. For in a compound like Taggarts the plaster and silax components of which are so well balanced that the expansion of the latter nullifies the contraction of the former and by allowing the flask to cool down these elements regain their original condition.

Having decided upon the cool mould, we are now ready to cast into it the molten metal, before doing this let us recognize the principles involved and examine the apparatus at our command for the accomplishment of this end. We must bear in mind one truth and that is that "All metal castings are made under pressure." Even if no apparatus whatever is used in forcing the metal into the mould, there's still the pressure of the falling metal to be accounted for. Of course, the relation between the size of the gate in the mould and the success of the casting with what might be termed the inherent pressure of the metal is a fact to be taken into consideration. The gate will have to be larger than necessary if some outside agent is used to increase the pressure.

The noble metals, because of their high fusing point cannot be cast by this method. We must therefore make use of one apparatus or another. Which of the many offered to the Profession shall it be? Here too we will have to choose on the basis of how perfect a link the apparatus is in the chain of inlay construction. The machines on the centrifugal principle would be all right if their force could be definitely controlled, measured out in given quantities. The vacuum machines are objectionable because by their inverted pressure they exert a pulling force upon the friable mould and the molten metal rushes into it by a force equal to double the atmospheric pressure, viz., about 30 pounds to the square inch. The direct pressure machines, e.g., the Taggart and the Burns, etc., are preferable because of the following reasons.

1. Pressure may be definitely measured by means of gauge.

2. Pressure may be sustained at will and may be applied at the psychological moment.

3. Gold may be melted in crucible of flask and is important from economical standpoint.

The machine invented by Taggart, the creator of the whole inlay process is a wonderful one. With it, it is possible to bring the gold to a boiling point in the crucible of the flask before the entire mould has been heated to distortion. It makes possible the use of a small nitrous oxide flame which gives an infinitely greater amount of heat concentrated on the bottom of the metal than is possible with a large flame of the ordinary blow pipe. With this machine one may apply a measured amount of perfectly sustained pressure at the desired moment, and the flame is automatically turned off as this pressure is applied.

The Burns is a simpler machine but performs with equal satisfaction.

Now assuming that you are using a direct pressure machine, place your flask containing the mould on the platform, pump up the desired pressure (from 3 to 5 pounds for inlays) and adjust your flame. If Nitrous Oxide is used the flame should be very small about ¾ of an inch. Have your gold clean and ready on a charcoal block near flask. Now bring the metal on charcoal block to almost fusing point and remove it to crucible of flask while the flame is played upon it.

The tendency of the mass to assume a spheroidal shape will now appear, and finally the molten metal will present a glowing sphere and the mass will be seen to move. The gold may now be called fluid, but it is not yet hot enough for casting. If it were cast at this moment a very sluggish mass would have to be dealt with, and a very imperfect piece of work would be the result. This may be avoided by keeping the flame upon the fluid gold until the heat of it has been raised to such a point that molecules seem to repel one another violently. The molten mass will assume the color of sunlight, with a violet tint in it, the mass will not move from side to side but will rise in the crucible, as if pushed up from beneath, only to drop back again to repeat the performance.

All this has taken less than a minute and at this stage the lever is brought smartly forward: the plunger and pressure heads descend upon the flask, the blowpipe is thrown to one side, the city gas is shut off, the valve which allows the pressure gas to descend upon the molten metal is thrown open, as the flask is sealed, and the molten metal is forced into the mould and held there under a constant and sustained pressure.

From forty seconds to a full minute's time should be given for the air to exercise its pressure against the congealing metal. The lever is then thrown back, and will carry the pressure head upward. The flask will, in most instances, be found cool enough to be grasped with the hand.

After the casting has been carefully and thoroughly brushed free from compound, it is placed in a rubber cup containing hydrofluoric acid. The acid will free the casting from any of the silicate it may still have on it. It would be impossible to remove every evidence of this by the use of the brush only. Owing to the enormous amount of heat to which the metal is subjected under the nitrous oxide flame, it picks up a number of mineral and metallic impurities, which, however, are finally forced to the surface of the casting and the crucible side of the surplus. Particularly does the crucible side of the surplus button become contaminated with interfering agents which it picks up from the silica, and for this reason it is advisable not to use any gold for casting unless it is absolutely clean.

When the casting has been in the acid at least several hours, it is taken out with a pair of tweezers and washed under the faucet, then brushed with soap and water.

A test tube about six inches long and three-quarters of an inch in diameter, is filled about one-third of its capacity with a saturated solution of sodium bicarbonate, and the casting is boiled in this solution until every trace of the acid has been neutralized.

It is important that the acid be neutralized beyond a doubt because of the deleterious effect of the least particle of this acid upon any cement or tooth structure.

In conclusion let me quote Chayes.

"It would be well for the inlay worker to consider the entire technique as a complete circumference of a circle, presenting no break in its continuity. In the centre of that circle and responsible for its unbroken circumference is the ideal which the inventor conceived and held onto while he thoroughly and carefully worked out every phase of this technique. Then he would be the creator instead of the mender."

# Excerpts from an Address on Dental Education in Universities

*Prof. W. J. Gies, New York.*

A university represents, as a rule, the best type of public agency for the promotion of advanced education in all its branches. The management of the university, as a rule, is competent and altruistic. The university is trusted by the people to promote the public welfare as against the private or personal interests of its managers and officers. Accordingly, the university receives gifts and acquires cumulatively a permanent endowment in support of the functions it performs, and is *expected* to perform, generously for the benefit of the public.

Independent professional schools, if proprietary, cannot, for obvious reasons, expect to receive endowments. Independent schools that are non-proprietary rarely obtain endowments because the public senses their scholastic disability, from lack of academic associations, and not only refuses to believe that they *can* be as useful as they would be if they were parts of universities, but also and for that reason declines to help them financially. This tendency has been growing rapidly everywhere.

These facts indicate why, all other things being equal, there is advantage to dentistry from general incorporation of the dental schools into universities. The university will be trusted to give to each of its parts a proper share of gifts and receipts from endowments; and because of the university's altruistic relation to the public, the university may expect to receive, and can suitably invite, endowments for such specific purposes as the promotion of dental education. If, however, a university uses a dental school as one might use a cow—to provide food for all the members of the family—then membership in a university may be detrimental rather than helpful to the work of a particular group of dental teachers. Nothing whatever can be said in behalf of such university management, from the point of view of promotion of dental education.

There has been considerable misapprehension on the latter point among university presidents and they have been led to believe, by dentists I regret to say, that a dental school can be properly conducted not only on a basis of financial self-support but even as a money-maker for the whole university. Much maladministration of university dental schools has resulted from promotion of this erroneous idea, and also from suppression of the real truth in this relation.

I have lost no opportunity lately to rectify the gross error that has been made in this connection. Dental education deserves and should receive specific endowments for its promotion. It should receive a full share of all the advantages that now accrue to the teachers, investigators, and practitioners of every other type of scientific health service. The universities owe it to the public, to dentistry, and to themselves, to make this situation perfectly clear to all concerned, so that the spirit of philanthropy may be induced to give to dental education the support and encouragement that the fullest growth and greatest perfection of dentistry require.

The prospect of early rectification of this situation is very bright, because of the awakening now in progress in the universities all over the country.

# Education of the Patient

*R. M. Watson, D.D.S.*

Mr. President and fellow members of The Dental Study Club.

The subject assigned the essayist, namely "Educating the Patient" is rather wide in its scope, inasmuch as there are many phases in which the patient, the prospective patient, and the "dear public" at large, require educating.

It is not my intention to deal with the patient's financial attitude or conduct with his dentist but rather with that of educating the patient and public to the necessity of a clean, healthy and normal mouth. I might say in passing that when the patient learns to appreciate dental services, and considers the dentist's work from a health standpoint rather than the purchase of so much merchandise, his gratitude, financially, will be expressed in a more cheerful manner.

### Attitude of the Patient Toward Dentistry.

History informs us that dentistry has been practiced for centuries, but only the rich could afford treatment. Crude as it was, in our estimation today, the masses were obliged to suffer pain, or resort to the chemist, barber or blacksmith to remove the offending member. This last mentioned operation was often no less painful than the disease itself and even the brave approached the ordeal with fear and trembling. This, what I call "inherited dread", is still deep rooted in the people of today, who will suffer pain for a long time before they can be persuaded to visit the dentist. Here is a case where dental education can be demonstrated in actions instead of words. With the various anaesthetics at our disposal the treatment required, can be done painlessly, thus overcoming the dread and winning a grateful patient who will heed any advice given.

There are still some people who consider the teeth of little value and of having little influence on the general health. To these people, the teeth are useless articles inflicted upon humanity, whose chief function is to cause pain. The loss of a tooth to them only means one tooth less to cause pain. There are others who because their teeth do not cause pain abuse them by neglect, and permit them to be ravaged by caries or periclasia, little thinking of the effects on their general health, until much harm has been done and they are sent by their physician to have all their teeth extracted.

With the above mentioned cases, the dentist does not see his patient before great damage has already been done and it is for this reason that we have to rely on other means to educate this class of patient before the havoc has been wrought.

### Dissemination of Dental Education.

The essayist is aware that the resources at the disposal of the individual dentist are quite inadequate to carry on any extensive propaganda and his part needs must be confined to those with whom he comes in contact. Fortunately we have some very strong allies, who through the press are reaching the people beyond our scope, and stimulating interest and creating a desire for a healthy, clean and efficient mouth.

1. We are indebted to a number of the Life Insurance Companies for their work in educating the public to the importance of good teeth to their general health. These companies spend vast sums annually in

teaching the public that they cannot be physically sound unless they are dentally sound. Some of the companies publish little booklets for free distribution, which I would recommend for your waiting-room table. These little booklets are illustrated and written in a simple and interesting manner and seem to appeal to adults as well as the children.

2. Perhaps our greatest allies are the provincial and civic boards of education, who recognizing that the child cannot be 100% mentally sound unless he is 100% dentally sound, have established school clinics where each child receives a periodical examination. The parents are advised of any dental defect by means of a card. This card is returned to the school after it has been signed by the family dentist upon completion of the work. This regular dental inspection not only insured dental attention for the child, but often has the effect of educating the parents to their own dental needs.

3. It would be unfair not to mention another great ally, I mean the manufacturers of various dental preparations, these people who, although for their own pecuniary benefit, reach a vast number of people, and by their extensive and forceful advertising, create a desire for a healthy mouth and beautiful clean teeth. Your essayist has often felt that the dental profession have been lacking in their appreciation of the good work done by these people, who not only sell their products, but impress upon the people the importance of regular dental inspection and the advantages of prevention.

The Canadian Oral Prophylactic Association, I believe, operate without a profit, using any surplus in educating the people that prevention is better than cure.

### Professional Advice by Dentist to Patient.

We now come to our personal duty, that of educating the patients that come to our offices. It is not my intention to instruct the dentist as to what he should say, but to offer a few suggestions which he may find of some benefit. It would be impossible to deliver a stereotype lecture to each and every patient.

Much can be accomplished by having suitable dental literature at the patient's disposal in the waiting room. The little booklets which I have referred to I find of great value, and the bulletins published by the government and research foundation, will be found both interesting and instructive.

The advice delivered personally at the chair must needs be varied to suit the patient and might be classified under two main headings:

1. Solicited Advice. 2. Unsolicited Advice.

The advice should be given in as simple a manner as possible. I find that charts in the operating room not only attract the patients attention but often make a rather difficult explanation easy. Almost all patients greatly appreciate an explanation of conditions in their own mouths and the dentist will be rewarded not only by the knowledge that he has enlightened and benefited his patients, but also by the continued patronage of those in whom he has shown his interest.

# Address of Dr. F. J. Conboy at Luncheon in Honor of Dr. C. N. Johnson, Chicago, on Tuesday, May 27th, 1924

This Luncheon is held in honor of Doctor C. N. Johnson.

A really great man is the grandest object that this world ever exhibits. The heavens in their magnificence, the ocean in its sublime immensity, the mountains standing forth upon their granite foundations are all less imposing than a living man in the possession of all his faculties and powers.

And yet, thousands of men breathe, move and live, pass off the stage of life and are heard of no more. Why? They did not a particle of good in the world, none were blest by them, none could point to them as the instrument of their redemption, not a line they wrote, not a word they spoke could be recalled, and so they perished; their light went out in the darkness and they were forgotten. Not so with the honored guest of today—he has built for himself a monument of virtue that the storms of life can never destroy. He has written his name by deeds of kindness, love and mercy upon the hearts of the thousands who year after year have come in contact with him and he will never be forgotten. His name will be as legible on the hearts of his friends as the stars on the brown of evening.

Historians tell us that selfishness has been the motive power in life since Adam delved and Eve spun, but now and then men appear upon the stage of life's activities who place the joy of service before the reward of selfishness. We are gathered here today to honor such a man, one who has not only risen to the highest position within the gift of the members of his chosen profession, whose name is upon the lips of every outstanding dentist in the world, but above all is loved and respected by all those with whom he associates and more profoundly by those who know him best.

I do not intend to take time to speak of Doctor Johnson's many accomplishments; within the short time at my disposal it would be absolutely impossible to cover the achievements of such an active and helpful life. Among the foremost men in dental literature, among the foremost men in dental practice, among the foremost men in dental education is our friend the illustrious author, poet, practitioner and teacher whom we honor today. He has ever maintained the dignity of his high profession and has performed, as he understood them, its many important duties. Doctor Johnson has always been a great worker and has a prodigious faculty for performance and this, augmented by a marvellously keen intellect, has made it possible for him to accomplish tasks far beyond the reach of the ordinary individual. All men are not equal, the beauty as well as the happiness of the universe requires inequality, we must have hill and dale, mountain and valley, suns of all magnitudes, worlds of all sizes, and minds of all dimensions, in power and capacity. The man we today delight to honor was well endowed, and he freely and willingly used all his mental powers and faculties for the good of humanity.

The highest compliment that can be paid any man is to say of him—"He helped his fellowman." How many great men owe their success to the sympathetic assistance and the sage advice given by a friend at the proper moment, and how many lives, which would have been great, have been blighted and ruined because the needed encouragement was not given or because the enthusiasm was deadened and the ambition killed by unkind

and destructive criticism. Doctor Johnson has ever been the friend and helper of his fellow practitioner, to use his own words spoken of another—"He has stooped to aid a fallen comrade whenever he saw one down and has put a prop under those whom he found trembling in the balance."

Having passed through a period of hard and thorough preparation for the activities of life and having given many years of devoted and whole-hearted service, he can now with the wisdom which comes from experience and with the sympathy which comes from an accurate knowledge of human nature gained by direct contact with men and events, advise and counsel his perplexed brother and especially the young men before whom the golden gates of opportunity are just about to open. As Dean of Students at the Chicago College, Doctor Johnson has been the honored instrument of having persuaded and induced thousands of young men to accept ideals and to follow a path of service which lead them to the fruition of riches, honors and pleasures, boundless as the universe and enduring as the ages of eternity.

Have you ever taken the time to consider the advantages and benefits which accrue from being brought, during the impressionable period of life, under the influence of the light which radiates from a pure and noble life. The beatific influence of an exalted life is beyond compare. I stood on the platform of a lonely station and there saw the light which gleamed from the headlight of a giant engine rushing onward through the darkness heedless of opposition, fearless of danger, and I thought it was grand. In the open country in the early morning I have seen the light come over the eastern hills in glory, driving the hazy darkness like mist before a sea-born gale, till leaf and tree and blade of grass glittered in the myriad diamonds of the morning ray and I thought it was grand. In the raging storm of a great city I have seen the light that leapt at midnight athwart the storm-swept sky shivering over chaotic clouds, mid howling winds, till cloud and darkness and shadow-haunted earth flashed into midday splendor and I knew it was grand. But, the grandest thing next to the radiance that flows from the Almighty Throne is the light of a noble and beautiful life wrapping itself in benediction around the destinies of men and finding its home in the bosom of the everlasting God.

Life is a great struggle, a splendid campaign, happy the man who cultivates all his powers and uses them for the good of his fellows. How pleasing to him who has run this glorious race to survey from the lofty summit of his lasting fame the cumulative results of an active life developed in the light of eternity. How transporting to contemplate the proximate and the remote, the direct and the indirect beatific fruits of his labors, and to know that thousands of grateful souls recognize him as the man who by precept and example lead them into the way of true happiness and prosperity.

Doctor Johnson, because of what you have done for dentistry and dentists, because of your love for mankind the world over as shown in your useful and altruistic life, and because you are our friend and brother we ask you to accept this slight evidence of our love and esteem; slight, because no gift no matter how large, how ornate, or how costly, could in any adequate measure indicate the admiration, respect and affection which we have for you. We present this small token in the confident hope that as you travel from place to place carrying everywhere the gospel of optimism, industry and brotherly love, it will ever remind you of your many friends in your native Province of Ontario and especially of those who

delight to proclaim that they graduated from the Royal College of Dental Surgeons. We know you often think of your native land, the old home and your boyhood days. These beautiful and sacred associations and memories are so tightly entwined around your heart and mind that neither time nor distance can separate you from them. The Land of the Maple is so near and dear that you often sing with the poet—

"Her hills are singing to the skies,
The Wild flowers deck her virgin sod,
So much of nature in her lies
She must be near to nature's God."

Tomorrow we separate, you go to attend to your many pressing duties and we go back to our fields of endeavor, but in the truest sense of the word we will not separate, for we will ever be bound together by mutual sympathies, helpful thoughts, and cherished memories.

"Thou goest thy way and we go ours,
Apart yet not afar,
Only a thin veil hangs between
The pathways where we are;
God keep watch 'tween thee and us
This is our prayer
He blesseth thee, He blesseth us
And we are near."

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## The Modern Student

The average American student is surrounded by conditions which deprecate the value of anything except financial success, and that to be gained by any means, with as little exertion as possible. The idea is to graft all the information you can, do as little personal work as you must, hit the high points, and let the bookworm or drudge go slow and sure; avoid the difficult branches of the school curriculum, choose the easy electives, and let George, or Tom, or Dick, or Harry bone through the standard course.

The attitude begins with attendance in the primary grade, continues in high school and is a habit by the time college or university status has been reached, and the snappy retort to your effort at persuasion is, "Well, what does it get you?"

With this mental attitude, is it remarkable that so few men can be found capable of doing research work?

A great painter never feels justly appreciated by the plaudits of the non-elite. A great musician's efforts must not be judged by a jury of jazz boys, and an author in literature and science must feel sadly alone when he realizes how little the average person is capable of valuing his efforts.—Dental Cosmos.

# Psychology in Business and in the Professions

## Some Basic Considerations

*G. E. Harter, D.D.S., Toledo, O.*

"Say to him that understands that it shall be well with him, for he shall eat of the fruit of his doings. And say to the foolish that it shall be ill with him for the reward of his hands shall be given him." I hope I may be pardoned for this rather free translation of a quotation from Isaiah. You did not expect a sermon from me, but possibly you may find something of very practical utility in that which follows. You may depend upon its truth and its basic common sense.

In the study of Consciousness, as well as in the investigation of the activities of its instrument, Mind, we find it necessary to enter all realms of research, since there is no single fact of human activity that does not depend primarily and fundamentally upon some modification of Consciousness, upon some expression of Consciousness through the Mind.

Many fine thinkers, among them men such as Emerson, Carlyle, Browning, go much farther than this, their reading and study leading them to such conclusions as that of Emerson who declares that "the rock is merely crystalized thought."

Any man who has taken the time and trouble to make himself acquainted with East Indian thought must have recognized the fact that the mind of the Asiatic far surpasses that of the western races in subtlety, in quick and keen penetration and in close analysis. Bismarck was not far out of the way when he declared that the Oriental of education and culture, "Knows all that we know, and all that he knows besides."

East Indian literature, particularly the sacred books, abounds with statements wholly in accord with that quoted from Emerson: "The world and everything in it exists merely as an emanation from mind"; "The physical Universe was thought into being," etc., the whole being summed up in a sentence:

"Everything that exists, everything that has existed, everything that ever may exist, was first a thought, was created by thought, and depends upon thought for its existence."

Sages, philosophers, poets and teachers in all ages have emphasized the importance of thought in a creative sense. "As a man thinketh in his heart, so *is* he." Examples might be multiplied; but I have succeeded in attracting and concentrating your minds upon the importance of our subject, those given will suffice. And this leads me to a fundamental proposition that nothing exists, no act is performed that has not behind it some fact of psychology, some motive, some purpose; therefore, we may look to psychology for the solution of the three great questions which have demanded and universally received attention in the minds of all men who think at all; for psychology alone can answer these questions *What?* the answer to which lies within the domain of Science, dealing simply and solely with effects or finished things; *How?* which it is the purpose and duty of philosophy to answer, since it deals solely with relations and relativity; and *Why?* the question that has to do with the ultimate causes of things, the answer to which means an understanding of many of the so-called mysteries of human life, position, condition, success, failure, progress, retrogression; and we may look here for the answer to the

question why some men succeed in their chosen walk of life, and why other men record failure after failure in every line of effort attempted.

One of the great, fundamental, far-reaching facts established by the study of psychology in its relation to everyday life is that while men possess personalities that differ; while each is an individual of whom there is no exact duplicate in all the universe; while your mind and my mind and all other minds partake of that individuality, each doing its own thinking in its own peculiar way, when we go behind all these differences and enter the domain of Consciousness, we find a very different state of affairs; for Consciousness is One and universal.

Consciousness, the faculty of being aware of anything, is one; all minds, all individualities, all personalities exist in it and by reason of it. Mind is not a divided-off section of Consciousness; it is an *individualized form of activity within Consciousness.*

Your mind, my mind, the minds of all of us, meet and touch each other and touch the minds of all other men within the unversal domain of Consciousness, *all the time.* All of you may not recognize this, but it is true, nevertheless.

There are countless billions of drops of water in the Atlantic Ocean; each separate so far as its own activities are concerned, and yet each in closest, most intimate contact with every other drop along lines of force. If one single drop of all those billions should be taken out of the ocean, every other drop would be affected by that withdrawal, and the mighty ocean would be obliged to readjust itself to a new level because of it. If some sudden agitation or convulsion should occur within a single drop every other drop would feel it, and some change of form would necessarily occur.

So in what we may call the great ocean of consciousness there exists millions upon millions of Minds, each free within its own limits to think and act as it wills, and each exercising a direct influence upon every other.

By the very nature of things no two of these can be precisely alike. If any two of them were alike in all respects, it would be necessary for them to occupy precisely the same place, to fill precisely the same space. We know that no two bodies can occupy the same place at the same time. That we call a physical law; but it did not originate as such; all physical laws exist first on the plane of Consciousness; are merely the crystallization of some thought, the action of Mind through substance or matter.

But there is another law, called the Law of Association, by which atoms, molecules, cells, minds, men, nations and races that are similar in fundamental characteristics are drawn together into associations of some sort, cosmic, political, civic, social, professional or what not.

Consider two fine mechanics who have learned the same trade, both machinists; naturally we look for both of them in a machine shop; and so well do we recognize the difference between similarity and duplication, none of us would expect these two men to perform *all* parts of their work equally well or in precisely the same way. And the man in charge of the shop also recognizes that difference, and takes pains to find out just the particular kind of work each can do best and sees to it that each has that particular kind of work to do. Fundamentally alike in tendency and choice of occupation, they differ personally; that is, as to details.

So with Minds. Each a Unit within universal Consciousness, those that are fundamentally alike occupy bodies that also are much alike, in that

nobody possibly could mistake what we know as a human body for any other, from that point they differ widely, and we have races, nations, groups, families, professions, callings, what not.

Still, however widely the members of the human family may differ as to details, each one of them is in touch with every other one of them through the fundamental fact of Consciousness.

Now for another great fact or law: Progress is the law of life. Standing still means stagnation and stagnation means death and death means dissolution and there an end. Within the body of universal Consciousness there exists a Power that moves to Good; only its laws, and only those units or men within that body who are aligned with those laws, endure.

There is a movement, a progress, an evolution if you like, away from something or some state and toward something or some other state. This movement affects every individual, every mind, every unit of Consciousness.

It should not require the wisdom of a Solomon to recognize the states from and toward which this evolution has its trend. Read, however casually, Well's "Outline of History," or any other similar, and that movement is plainly apparent.

The aboriginal man was a separatist; a pronounced individualist; a man who had no interest whatever in anything except himself and the things that belonged to him. His arms, whatever they were, were against every other man's and every other man's were against him. Selfishness was the most powerfully-developed phase of his mind and soul.

Gradually and very slowly he learned that that sort of thing did not get him anything or anywhere. He felt, although in his dark and chaotic mind he could not reason it out to a conclusion, still he *felt* that he was working against something more powerful than himself, something that always seemed to step in at the very moment of his savage, selfish triumph, to defeat him in one way or another: Either to snatch victory out of his grasp or to make him lose all satisfaction, all interest in the victory if attained, as Alexander, conqueror of the world, bitterly dissatisfied because there were no other worlds to conquer; and as all of us have come to know only too well, "There is more joy in anticipation than in attainment."

Defeat after defeat, loss after loss, sorrow after sorrow beat upon that savage soul until finally, he learned the great truth that the movement, the evolution within Consciousness, was away from all that sort of thing, was taking its trend in precisely the opposite direction; and then he learned that the only really good things in life are the things that we can *share* with somebody else; the more completely shared the more certain and lasting the happiness.

And now I am here to tell you that the law that appealed to and modified that savage soul was, as it still is, that "Power that moves to good"; not the narrow, merely personal good of one man nor of one set of men, nor of one isolated tribe, nor of one nation or planet; but of the entire universe of men, everywhere within the scope of universal Consciousness, which is influenced, modified, helped or hindered by every motion within it, by every thought that any man may think, by every word that any man may speak, by every act that any man may perform, and particularly by the motive behind every act.

The man who works *with* that law succeeds, whether he know the law or not. The man who works *against* that law, fails, no matter whether he know the law or not, even though he may not have the faintest idea that such a law is in operation. Ignorance of the law makes no difference.

"Help Nature and work on with her, and she will hail you as one of her masters and make obeisance" is an aphorism from an Eastern Book of Wisdom. The law that we have been talking about may be called the Law of Nature, the same law that makes the seasons follow each other in regular order; that brings seed time, growth time, ripening time and harvest time; and we must all learn, in one way or another, that Man, all men, are a part of Nature and not apart from Nature; and that the "Law that moves the universe must guide the soul," for we "Are but parts of one stupendous whole, whose body Nature is, and God the Soul."

The trend of that law is plainly to be seen—away from selfishness, greed, avarice; away from sham and pretense; away from masks and make-believe. And toward plain and simple desire for the good of others as well as good for ourselves.

I am not among those who preach self-sacrificing altruism, self-abasement, self-immolation; but I am among those who believe that success comes and only can come through alignment with the law that moves toward the general good, and that good expressed through Service.

Coming down to particulars from what many may consider mere glittering generalities, let us see if there is any connection between obedience to, or alignment with, that law and the practice of dentistry.

Well, dentistry claims for itself the proud position of a learned profession. Are we? Are outsiders, is the world in general, prepared to admit the validity of that claim? On every hand I hear papers, read articles, listen to discussions in which the statement is made over and over again that dentistry *IS* a profession, to which its practitioners have been *called;* a calling, not a mere business chosen for the money to be made; something in and through which its professors seek to answer a call—to what? To service, first, last and all the time. If the common consciousness of mankind had definitely and conclusively accepted dentistry as a profession would it be necessary constantly to reiterate that claim? If its claim were so definitely and conclusively accepted would it be necessary for the president-elect of the great American Dental Association to warn the members of that Association in a most able paper recently printed in "The Dental Summary" that, having assumed the garb of professionalism, they must wear that garb next to their souls and not merely on the glass in the office door?

What, then, is professionalism? What does it mean to be an accredited member of a learned profession? Is there any difference in attitude of the professions and of commercial business toward the law of progress? In the minds of many it would seem not. But, in reality, in relation to service, is there a difference? Let us see.

"He profits most who serves best," the motto of one of the largest, most influential of the younger semi-altruistic organizations, and one that has done and is doing much to professionalize business, may be so analyzed as to answer that question understandably. Here we must again consider an action of Consciousness, of mind within Consciousness. The difference between the professional man and the man of business is the difference in mental attitude toward the understanding of that motto.

The man of business is in business for profit. He makes no pretenses in any other direction. He has chosen his business because of the profit it offers. For him it is quite right and proper that he should serve in order that he may gain. His life is devoted to gain; everybody knows it, accepts it, and nobody is deceived.

How is it with the professional man? Has he taken up his calling, has he entered a profession solely and *avowedly* for the purpose of gain? Far from it. In taking up the professional life he has said to the world that he is in line and in harmony with the power that moves for Good; that Service First is the moving power in his life; that gain is a secondary consideration with him. That is what professionalism means: To *give* first of all; to give all possible for everything taken; to give *sufficient* and correct service, to care for the case in hand, regardless of reward in money or in any other way save the sense of duty well performed; *and it means a declaration of unity with the law of good; of progress.*

When the business man hangs up in his office the framed motto: "He profits most who serves best," he wants and expects the reader to be impressed by the idea that he gives real, genuine service for the money paid and the profit gained, instead of merely pretending to do so as is far too often the case. What that merchant or that manufacturer is trying to get across is the idea that he is not a blue-sky artist; that he is not going to try to get something for nothing; is not a wolf in sheep's clothing; that he really means to give something, not very much, maybe, but something for the money paid to him and the profit gained. Of course, the competitive idea also is strongly behind that motto and the action of framing and hanging it. The man who does it hopes to convey to the mind of his customer the impression that, since he is aware of the fact that the *most* profit is to be gained by and through the *greatest* service, he, the customer, may expect to receive the greatest, best and most for his money right there at his shop. "We defy competition" is framed into and with every one of those mottoes. "No use to cross the street; we know that we must give you the best service if we expect to reap the greatest profit; we know it better than the other fellow and you will get just that right here."

That's the business end of it; but the professional idea is far different. The idea of professionalism carries with it the collateral idea that the members of a profession are looking for rewards other than financial, greater than financial—rewards that have to do with the everlasting good; with duty well performed, duty that had for its primary end and aim the relief and permanent good of the patient, and the making good of that claim in harmony with the law, by the individual into whose hands that patient has placed himself.

That is what professionalism means; that is what membership in any of the learned professions means in relation to human progress; to that general trend which has for its purpose the best and growing good of all members of the human family.

A professional life lived in accordance with the true meaning of professionalism is a success. It is a success professionally, a success in dignity, honor, satisfaction— and it is a success *financially* also. I have known many hundreds of dentists, know many hundreds of them now, and I never have known of one single instance of a man who realized the dignity and the responsibility of his calling, and was technically able, who was not a successful man from the standpoint of income as well.

I often have been reminded of that quotation from the Bible, so often used and so little understood, "Seek ye first the kingdom of God and His righteousness, and all these things shall be added unto you."

Now, let us translate that quotation, interpret it in modern terms, in terms that the modern man would use were he trying to express the same idea: "First get in line with the law of progress; live so that your work helps the world along, and all these other things that you want will come back to you in reward."

Intelligent business men—and we must differentiate, because many business men are not intelligent, many more are only half intelligent even about their own business—men who *really* think, recognize the fact that there is much of this same law at work in business. Men who think too much of profit; who say "we are not in business for our health, but for all we can get out of it"; men who care more for the immediate dollar than for the building of a great business upon the ideal of service; men who "do not play the game" according to the rules of the game, do not enjoy any marked prosperity, while most of them fail utterly.

It is a well known fact that something like ninety per cent. of the men who start in business never reach the quarter-pole; most of them go down to defeat within two years; while only the rare case, the occasional man here and there, really succeeds. If you were able to look into the minds and the souls of those men who fail you would find that the set-screw that holds or should hold the steering-gear is loose; you would find that the only thing they have been able to see in business is their own immediate personal gain; no thought of service one way or the other; no ideal of forming part of the great distributing system which is necessary to supply the wants of our hundred and twenty million people; and that the business that they set out to do added nothing whatever to the sum of things useful or helpful or necessary.

The thing that I want to emphasize is the *mental* attitude; the activity of the mind; how it works, what it works upon; what it wants and how it means to go about to get what it wants; for these are the elements that go to make up motive, and motive is Character, and *character* is the one fundamental, necessary, essential qualification for success.

What, then, *IS* Success? What do we mean by the word Success? What sort of man is he who achieves the greatest Success?

It seems to me that he who makes the most of life in *every* way is the most successful man. So Life enters our consideration as a factor. What is the purpose of life, of living? He who accomplishes that purpose most and best is the most successful man.

The purpose of living is, as stated in our great Declaration of Independence, of which we hear so much around our National holidays and of which there is so little understanding, Life, Liberty and the Pursuit of Happiness. First, *Life itself* for its own sake; then *Liberty* to make the most and the best of life in our own way; then the *Pursuit of Happiness.* We might epitomize the meaning of the document as Life in order that we may be free to pursue happiness.

Happiness, then, is success. The man who is happy has achieved a successful life.

What are the elements that go to make up Happiness—that is, Success? When we say Efficiency, Capacity, Industry, Application, Intelligence, have we named all of those elements? Granted at the start that

there are hundreds of men who see no more in life than is expressed by these things, I consider them merely superficial, and that the *real* thing must be searched for in, behind, beneath and above all of them.

Men who have studied most deeply, who have, as it were conducted a life-long clinical laboratory for the investigation of the etiology of Success, classify the elements of successful living, particularly as regards the professions, in the following order:

Character
Expression of Character
Judgment
Resourcefulness (Adaptability)
Understanding of Men;

——and last and least of all, Technic; and technic is made up of Efficiency, Capacity, Industry, Application and Intelligence; in other words, those qualities that usually are so very highly esteemed and praised are merely parts of the *way* in which things are done; of technic, and have no part in the purpose, the *motive*.

What is Character as it makes for professional success? Dr. C. N. Johnson, the honored president-elect of the A. D. A., defines it as: "Honesty of Purpose, Sincerity and Honesty in Dealing with Patients." While I might regard this quotation as having to do rather with the *expression* of Character, I am quite willing to accept the definition as in every way satisfactory, because men *express* what they are and what they have. "All of our past lies in everything we *do*." Every *act*.

Quoting from a paper of my own, written many years ago: "Having taken on the guise of professionalism and thereby announcing to the world that you are a man who regards Service for the Sake of Service as the highest possible ideal, with gain merely an incidental factor, you must be true-blue all the way through; you must be in the most complete harmony with yourself. No half-way measures will do at all. No pretense, no hypocrisy, no wolf in sheep's clothing will enable anybody to get away with it. It is like enthusiasm; it cannot be manufactured sufficiently like the real thing to deceive anybody. On the contrary, pretense vitiates the psychic atmosphere, makes it heavy, dead, mephitic, so that everybody who comes into it is chilled and depressed." There's far too much pretense in the world. We must add nothing to that toxic atmosphere.

One strangely interesting fact of human evolution is that one set of faculties is held more or less in abeyance while another is developing. Born with certain instincts which are infallible, the child is pushed and crowded into the development of intellect, as though that were everything, until the good, clean, natural and wholly correct instincts and intuitions with which the child was born have been crowded and pushed out of the way, and he has been taught to intellectualize everything. By that we mean that he Thinks his Feelings instead of Feeling his Thoughts. He seldom acts spontaneously, but usually from calculation.

As we grow older some little of the original natural powers return, and in many cases with almost original strength. It is this faculty or these faculties that give warning when we enter the presence of the man who is living a pretense; it is this mental or psychic condition that protects us, if we will but obey its warning.

Down on the Texas and Arizona prairies there grows a plant that bears a very beautiful flower. It is the Sensitive Plant, and it spreads

its tendrils for many feet in every direction from the central stalk. Touch one of those tendrils ever so lightly with your foot, it will at once draw back towards the center, curling up as it retreats, until there is nothing left of it except a tight little ball.

The wind may caress these tendrils, grass or grain-stalks may touch them ever so roughly, and they do not retreat, they are not alarmed by *natural* things; but a strange foot, the lash of a whip, a stick, or anything that is foreign to its habitat, and inward they go, refusing to have anything to do with the invader.

And that is precisely what all of us would do had we not been educated away from our natural defenses; we would at once sense something wrong when we came into contact with these Molly Make-believes, these men who, while posing as professional men, use their profession as a cloak for spoliation. As a matter of fact, we all do feel and some obey that warning, more or less; and that explains why some men succeed and others fail in dental practice.

And do not forget my fundamental proposition: We get *out* of life only such and so much as we put *into* it. As Old Paul said centuries ago: "Men and brethren, don't fool yourselves; you cannot deceive God or yourself; you cannot sow tares and reap wheat; you cannot put nothing in and expect to take much out; for *As* a man soweth *So* shall he reap."

You cannot sow greed, envy, pessimism, and expect to reap the good will that means success. Confidence is a matter of *feeling*, not of thinking.

This means far more than most of us suppose. AS a man soweth; that has to do with what he does, how he does it, and it has to do with Motive first, last and all the time; *So* shall he reap—in kind, in manner, in degree, in every phase and fact of life.

When a patient seeks the service of a professional man for the first time, an *impression* is made upon his *mind*—an impression that does not enter through the senses of sight, hearing, smelling, although all of these may be involved—certainly involved if the other and stronger impression is unfavorable. There is something far more subtle than any or all of these, the contact of mind with *mind*.

Much or all of this may seem more or less foolish, ineffective or even merely fanciful to many or most of you; but it really is the plainest, simplest, hardest common sense.

This world is part of a universe, a cosmos, not a chaos, which means that it is ruled by *Law* and not by *chance*; characterized by an orderly sequence of events, of *effects* following *causes*, not by events and circumstances that "just happen."

The *Law* is *one* Law, and governs everywhere and always; and it is not a *physical* law *only*, nor an intellectual law *only*, nor yet a moral or a spiritual law *only*; but manifests itself and enforces itself on all planes or phases of being—physical, mental, moral and spiritual, and it *always* works.

Work with it and succeed.

Work against it and fail.

As rational human beings, each of us has the utmost freedom to choose.

The law of Compensation always is "on the job." We need not hope to evade its operation.

# The Ontario Dental Convention

*Fred J. Conboy, D.D.S., Chairman Board of Governors, Ontario Dental Association.*

PLACE—University of Toronto, Arts Building and HART HOUSE.
TIME—May 26, 27, 28, 29, 1925.
PROGRAMME—*Essayists*:

Dr. Weston A. Price, Cleveland. Two illustrated lectures.
Dr. M. M. House, Deaner Institute, Kansas City. Full Dentures.
Dr. Harry B. Johnston, Atlanta. Root Canal Treatment.

*Clinicians*:

Dr. Harold Keith Box.
Dr. Stillman.
Dr. John Oppie McCall and others. Periodontitis.
Drs. Mortonson and Mortonson, Milwaukee. Inlays and Bridges.
Dr. Weston A. Price. X-ray Interpretation.
Dr. M. M. House. Full Dentures.
An outstanding clinician on Partial Dentures.
Progressive clinic on Oral Surgery.
Full particulars in next issue.

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Teacher—"Now Robert what is a niche in a church?"

Bobby—"Why it's just the same as an itch anywhere else only you can't scratch it as well."

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NEW ATTRACTIONS.

The entire Hart House placed at the disposal of the Association.

The University Residences containing accommodation for two hundred and forty members at the nominal cost of five dollars for the entire time.

Regular meals served in the large dining hall at reasonable charge.

The two great examination halls filled with exhibits.

Special rooms provided for class and society re-unions.

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Interesting athletic contests.

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Do you wish to protect your health—then hear *Weston Price.*

Are you anxious in regard to the health of your loved ones—hear *Weston Price.*

Do you wish to safeguard the health of your patients—hear *Weston Price.*

SPECIAL FEATURES.

(1) The College "Home Coming."

(2) The Annual Dinner Dance.

(3 The big "Dental Masonic Night," at Masonic Hall, University Lodge.

(4) Canadian Dental Army Corps Re-union Banquet in honor of our President.

(5) Class and Fraternity Re-unions, including the noon-day Re-union Dinner when all graduates will be seated at tables according to year of graduation.

(6) A grand re-union of the patriarchs and pioneers of the profession who will be the guests of the Association.

(7) Golf Tournament.
(8) Complete Oral Hygiene Exhibit.
(9) A special session for those engaged in School Dentistry and Oral Hygiene work.

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Some persons are handicapped from birth, they inherit a poor resistance to disease, their death certificate is all filled out except the date. Do you wish to fill in the date? WESTON PRICE will tell you how to protect such patients.

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ANNOUNCEMENT EXTRAORDINARY.

The week of May 24th is the "big week" in Toronto. The Woodbine Races, Sunnyside Amusement Park, Hanlan's Point, Scarboro Beach, the Theatres, and many other attractions will make your stay in the City most interesting and enjoyable.

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Remember the silent owl and the chattering magpie. 'Tis better to look wise than to talk foolishly.

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NOW is the time to decide that you will attend the next Convention of your Association. Last year we promised you a good programme and a profitable and pleasant time; you attended the Convention and you were not disappointed. This year we promise you a still better programme and a larger number of enjoyable features. You ARE COMING TO THE MEETING and you will be not only satisfied but delighted. Last year we were working under certain handicaps but these have been removed. We now have an ideal convention home with plenty of space for our exhibits, ideal rooms for the clinics and a large, comfortable, well-ventilated auditorium for our general meetings. Special rooms will be provided for the classes, clubs and fraternities that hold re-unions, and these rooms will be reserved for them during the entire length of the Convention.

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The virtue lies in the struggle not the prize.

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(1) Mark off the dates.
(2) Plan to be present.
(3) Decide definitely that you will attend and make the necessary provision.
(4) Procrastination is the thief of opportunity as well as of time.
(5) You owe it to your patients, your profession and yourself.
(6) You must sacrifice other things if necessary in order to get the benefit and inspiration of this great Convention.
(7) Determine now that you will do everything in your power to boost the Annual Meeting of your Association.

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With ordinary talent and extra ordinary perseverance all things are attainable.

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These are years of business depression and burdensome taxation. Economic conditions have severely affected our profession and many dentists feel somewhat downhearted and discouraged. We must ever remember that it is during the testing time that we display our true worth,

and if we as a body are willing to apply practical ethics by helping one another to maintain a high standard of service and to fulfil our obligations to society we will yet overcome the untoward conditions which now prevail, and demonstrate to the world that we want a high place among the learned and altruistic professions. The best way to get the courage and inspiration necessary for the task is to meet with your confreres in annual convention.

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There are more men who have missed opportunities than there are who have lacked opportunities.

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What do you owe to your profession? What is the profession of Dentistry? What would it be if the dentists now practicing would use only the knowledge and methods discovered and worked out by the men and women of this generation? Is it not a fact that the great superstructure which we call dentistry could not have been built had it not been for the foundation so carefully laid by those who have preceded us; the men who blazed the trail, the pioneers of our profession. Many have gone to their eternal reward and we delight to remember them, but some still remain with us and we would do them honor. Dr. Walter Willmott is arranging a re-union for those dentists of Ontario who started their professional activities more than fifty years ago. They are to be the guests of our Association. We know you will be glad to assist in entertaining them; the Annual Convention will provide your opportunity.

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To be trusted is a greater compliment than to be loved.

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The members of the profession who are Masons will be pleased to learn that University Lodge has invited us to be their guests on Thursday Evening, May 28th, in connection with what we call our "big Masonic night." The programme has not yet been arranged but we expect that the various chairs will be occupied by members of the profession who hold high rank in the Craft and that an outstanding speaker will be secured. Those who desire to register kindly communicate with the Secretary, Fred. J. Conboy, 1043 Bloor Street West, Toronto.

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All things should be true to nature; a hornet that cannot sting is a melancholy failure.

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Provision is now being made for a complete Oral Hygiene Exhibit. A special room will be reserved and everything new in motion pictures, still pictures, placards, booklets and newspaper articles will be shown . . . Dr. Arnold Semple and Dr. H. G. Robb have charge of the details. A special session for those engaged in connection with a School Dental Service is also being arranged.

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The Dental Nurses, and assistance association, will hold their annual meeting concurrent with the Ontario Dental Association. Dentists should arrange to have their nurses attend the sessions.

## DIALOGUE.

SCENE: A group of Toronto dentists in friendly conversation.

Place: Osler Hall.

TIME: After the address given by Dr. Weston Price.

Mac.—Well, what do you think of that, Gus?

Gus.—Wonderful, I don't know how he does it

Harold—Hard work and lots of it; close and careful application, that tells the story.

Ed.—Every dentist in Ontario should hear that address.

Harold—Dr. Price will be here at the Annual Convention in May.

Gus.—It's a safe bet that all those who heard him to-night will be back again.

Mac.—He'll bring the crowd, he has the knowledge which the profession needs.

Ed.—Yes, and he can tell it.

Harold—Some dentists stay away from the meetings and then try to get the substance of the address from the magazine report.

Gus.—It can't be done; when you hear Weston Price you get something which you cannot possibly gather from a printed report.

Harold—Yes, he has a great personality and the little side lights and illustrations are wonderful.

Ed.—Me for the Calcium Lactate and Sun-kissed Cod Liver Oil.

Mac. Yes, and we will be here to welcome him when he comes back.

Gus.—I would not miss him for anything.

Voice from Hamilton:—He was good here too.

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To speak kindly of others however great their imperfections is the greatest charity in the world.

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It will be very gratifying to the members of the profession to know that the exhibit space is being taken up very rapidly. This proves that the manufacturers and dealers are convinced that we are going to have a very successful Convention and they are not making any mistake.

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Hope for the best, prepare for the worst, and accept whatever the Lord sends.

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Home—the place where you are treated the best and grumble the most.

## Montreal Dental Club

The February Meeting of the Montreal Dental Club consisted of a report of the features of the sixty-first Annual Meeting of the Chicago Dental Society by Dr. Walsh, an address by Harry S. Thompson on the Oral Hygiene Council of Canada and a progressive clinic by Drs. Cameron, Dohan, Henry and Cleveland.

Dr. Walsh said: There were two important items on the convention programme, one being a paper presented by Dr. Guy S. Millbury on "The Trend of Modern Dentistry for the Next Decade." He pointed out that although research in dental filling materials and germicidal agents that might check the progress of decay, each had its place in the future of dentistry, yet the most important factor is the dietetic care of the expectant mother.

The modern dentist must take a deeper interest in the dental health of the family from a standpoint of building up good sound teeth and prevention of dental ills.

The other address that Dr. Walsh reported on was that by Dr. Sutton, Superintendent of Schools in Atlanta, Georgia. Dr. Sutton is not a dentist but a layman who has a vision of the vital importance of dental service to school children. He followed his original enthusiasm up with investigation in the schools of Atlanta and his message to the Chicago convention was a series of amazing results through improving the mouth conditions of his school children. The mentally deficient child is recognized as such by our school system today and the essayist clearly proved that a large percentage of such children were not mentally but physically deficient and that unhealthy mouths were the causative factors. Dr. Walsh urged the members of the Montreal Dental Club to realize their responsibility to the community of Montreal along the line of dental health education.

Dr. Harry S. Thompson spoke briefly, declaring the need of a Canadian Dental Hygienic Council. The child welfare, mental, hygiene, tuberculosis and other organizations were doing their part in public health education and now the time has come for dentistry to become organized in the same way, he stated.

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## The American Dental Association, Louisville Kentucky, Sept. 21, 22, 23, 24, 25, 1925

Programme the best and most scientific on all phases of Dentistry. Clinicians of expert ability. Wonderful exhibits conveniently located. Public health exhibit in keeping with Dr. C. N. Johnson's RADIO MESSAGE in January Journal.

10,000 Dentists are expected to attend this meeting.

Louisville is 18 miles from the center of population of the United States and most accessible by numerous Trunk Line Railroads.

Kentucky weather and roads are delightful at this season .

Hotel rates not advanced. Reduced Railroad Rates.

## Edmonton Dental Society

The Edmonton Dental Society held its regular meeting, Monday, January 13, in the Macdonald. This meeting had been arranged to coincide with that of the Alberta Dental Board which occupied most of the day.

In the evening, the board, in a body, attended the dinner as guests of the local society. One of the visitors, Dr. Henniger, of Calgary, gave a paper on "The Surgical Removal of Impacted Lower Third Molars." As the doctor had attended Dr. Winter's post-graduate course in St. Louis, Mo., he was well able to present his subject.

Drs. Hope, McPherson and Marion discussed the paper, which discussion proved the way for many questions on points of interest to the practitioners present. These were satisfactorily answered.

As well as the visiting members of the board; the third year dental students from Alberta University Dental School were present on invitation from the society. Mr. Gerrie, one of their members, acted as spokesman in expressing his appreciation for this invitation. From the value of the material in the paper presented; the numbers present and the interest shown, this was one of the best meetings so far held in the city.

## Essex County, Ontario Dental Association

Dr. L. D. Hogan was elected president of the Essex County Dental Association at the annual meeting and banquet of that body in the Prince Edward Hotel. Dr. D. M. McIntyre, past president, acted as chairman.

Other officers selected were Dr. A. Johnson, vice-president; Dr. H. L. Smith, secretary-treasurer, (re-elected); Dr. R. G. McMillan, Dr. L. J. Miller and Dr. M. G. Brick, programme committee; and Dr. A. M. Bisnett, Dr. G. W. Harris and Dr. J. C. McLister, membership committee.

Considerable routine business was accomplished during the conclave, and it was decided to meet once each month during the coming year, on which occasions an outside speaker will be present.

## Dental Convention at Winnipeg, May 12th to 15th Inclusive, 1925

Members of Executive: Dr. Manly Bowles, Chairman; Dr. M. H. Garvin, General Secretary; Drs. Greenfield, C. H. Walsh, D. A. McCarten and J. F. Morrison. Dr. Wm. F. Taylor, Chairman of Entertainment Committee; Dr. H. W. Mitchell, Chairman of Finance Committee; Dr. B. E. Brownlee, Chairman of Exhibits; Dr. W. W. Wright, Chairman Hotel Reservations; Dr. Chas. Moore, Chairman Programme Committee; Dr. E. L. White, Chairman of Transportation; Dr. H. J. Merkeley, Chairman Clinic Committee; Dr. E. Roy Bier, Chairman Publicity Committee.

February 21st, 1925.

Dr. A. E. Webster, 240 College St., Toronto, Ont.

Dear Dr. Webster:—In the next issue of the Dominion Dental Journal, will you kindly give us an announcement of the Convention to be held in Winnipeg May 12th to 15th inclusive? An effort will be made to revive the old Dental Society of Western Canada. Dr. Weston A. Price of Cleveland and Dr. H. A. Maves of Minneapolis have consented to be our guests. The Winnipeg prosthetic study club expect to present a series of clinics. We also expect a large number of other clinics from Western men.

A full announcement will be forwarded later. *M. H. GARVIN.*

# Editorial

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**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

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ONTARIO—S. Stewart Crouch, D.D.S.

Vol. XXXVII TORONTO, MARCH, 1925 No. 3

## The Vote on University Relations, Toronto

The members of the Royal College of Dental Surgeons of Ontario are being asked if they are in favor of giving the teaching of Dentistry over to the University of Toronto. This simply means that the Board of Directors as representing the profession of the Province of Ontario will cease to teach dentistry, but will continue to direct the profession, set examinations and determine who may practice dentistry as they do at the present time. The profession will as now determine the standards of dentistry.

During the past year or more the subject of university education for dentists has been before the Board of Directors for consideration. The first time the matter came up for serious consideration many years ago 93% of the profession who voted were in favor of the University teaching dentistry but the University was unable to finance the project at that time.

Those who were at all far seeing have known for twenty years that dentistry must sooner or later be taught by the University of Toronto. When the subject was first agitated there were only a few universities teaching dentistry, today there are only a few dental colleges or schools which are not faculties of universities. The change has been exceedingly rapid in the past year or more. The fact is no dental school can give a modern course in dentistry on the fees charged by the majority. The equipment is now so expensive and the standards of education so high and the state having recognized its responsibility to the profession in a financial way in all parts of the world it leaves only one course open to privately owned institutions. Several dental colleges of international reputation in the United States have been transferred to universities on a

financial basis of five dollars, on condition that the university continue its activities. A dental college is a liability and not an asset.

While there may be good financial reasons for the profession or any other private body not continuing a dental college in the interests of the public they do not compare in importance with the desirability of having every dentist a real university graduate. In the matter of scholastic attainment and professional education, neither the profession nor the people of Ontario can afford to take second place to other provinces in Canada or dentistry in other lands.

The proposed plan of agreement with the university contains only the general principles upon which will be worked out the many details. If the profession gives its assent to these principles the committee having the matter in hand will go forward with the hope that next year will see the University taking full charge of the education of dentists in Ontario They will gradually apply those ideals of higher education to dentistry which have made university graduates the moving spirits in all world enterprises.

## A Museum at a Dental Meeting

There are features of dental society meetings of far-off countries which might well be introduced into some of our Canadian dental societies.

The British Dental Association will have at its next annual meeting in London, May 28, 29, 30, June 1 and 2, what they call *The Museum.* It may be true that it would involve a good deal of work, but if it were confined to one or two departments each year it would be invaluable as a means of instruction. How valuable would be a collection of crowns, bridges and dentures with an attached history showing their length of service and value to their possessors! We learn how to act in the future by the observation of the past. The local and general history of a human denture with post mortum findings and exhibits would teach more than a hundred lectures in their absence. Unfortunately dentists make only objective records. If subjective records were made as well, the kind of museum suggested would be a feature of any dental gathering.

*The Museum.*

It has been decided that the Museum shall be limited to orthodontics and radiology. A provisional grouping of these subjects into the following sections has been made:—

*Orthodontic Section.*

(1) Models illustrating ætiology.
(2) Models, &c., illustrating treatment, before and after.
(3) Orthodontic appliances and apparatus.
(4) Apparatus used in diagnosis.
(5) Charts, &c., illustrating various classifications.
(6) Surgical treatment of malocclusion.
(7) Orthodontic aspects of cleft palate and other congenital defects.
(8) The normal growth of the face and jaws.
(9) The evolution of orthodontic appliances.

*Radiographic Section.*

(1) Radiographs illustrating normal conditions.
(2) Radiographs illustrating abnormal conditions.
(3) Radiographic apparatus and technique.

Offers of any exhibits under any or all of these sub-sections will be gladly received by the Secretary of the Museum Committee.

FRED J. CONBOY, D.D.S.
Recently appointed director of Dental Services for Ontario, Canada.

## Why Support Oral Hygiene?

Dr. Fred. J. Conboy has already made admirable progress in his new position as Director of Dental Services for the Province of Ontario by organizing the profession to assist in making a dental survey of the children of the public and separate schools. After the survey must come some means of prevention because there is no use attempting to reach on the conservative treatment of present dental diseased conditions. When the first dental officer was appointed to the public schools of Toronto there was no thought among those who promoted the appointment that he would extract or fill teeth as part of his duties. His was a much more important role. Teach oral hygiene and the prevention of mouth diseases. Out of this has grown the present organization in the department of public

health in Toronto which has reduced the incidence of dental disease from 93% to less than 50% and there is no doubt by so reducing oral diseases there has been a corresponding reduction in acute infectious diseases which have their ingress by the mouth and air passages. It is to this end that the dental profession of the province supports the Minister of Health and his Dental Director so that similar benefits may be brought to every community in the province.

## Editorial Notes

Dr. Mark Turnbull died at Victoria, B.C.

Ambrose Pare said we dress the wound, God heals it.

The Orthodontilogical Society of Europe meets in London, May 27 and 28, 1925.

Dr. A. W. Thornton addressed the Mechanics Institute on oral hygiene, January 30, at Montreal.

Dr. J. N. Carney presented a paper on oral manifestations of systemic disease to the Halifax Dental Society.

If you are young and your disposition not what it ought to be consult a dentist, says a Chicago practitioner.

Dr. Weston A. Price gave two lectures before the Academy of Dentistry, Toronto, January 23, 1925.

Dr. G. J. Roberts delivered an address on Radiography before the Edmonton Dental Society February 4th, 1925.

Dr. W. G. Thompson's offer to supervise the dental clinics of Hamilton free of charge was gratefully accepted by the Board of Health.

Through the courtesy of Drs. Black and Conn, Vancouver General Hospital will have a dental clinic every Thursday afternoon.

Dentists believe that the City of Hamilton is very inadequately supplied with dental clinics to take care of the school children.

Drs. Conboy and Seccombe were guests at a Masonic banquet in Hamilton, Ont., Feb. 20, 1925. They spoke on the subject of oral hygiene.

The annual meeting of the British Dental Association will meet in London, May 28, 29 and 30, 1925. H. L. Messenger, Secretary, 47 Rosslyn Hill. N.W.3.

The Director of Dental Services in Ontario is aiming to co-ordinate all the dental enterprises of the province for the best interests of school children.

Ontario dentists and those attending the Convention at Winnipeg May 12th to 15th, will be glad to know that Dr. Weston A. Price will be one of the speakers.

Dr. James Roberts, Medical Health Officer, Hamilton, Ont., is demanding that at least three more dental clinics should be established in that center of dental enterprise. His arguments are unanswerable so there isn't any doubt but the poor, the needy and school children will benefit by his insistent demands.

If dentists would make records of failures in operations and classify them into failures of mechanical technique and failures of judgment based on an incorrect diagnosis, we venture the belief that failures in diagnosis would account for full four-fifths of all dental mishaps.

W. Jacobson and family left by Canadian National for Halifax from which place they sailed on February 18 on the steamer Stockholm for a visit to the old home in Sweden.

The Alberta Dental Association is discussing a plan by which prominent clinicians can be brought from other parts to make a circuit convention at Edmonton, Calgary, Lethbridge and Medicine Hat. These cities to be centers to which many of those nearby might attend. Ontario has in an unorganized way carried out such a plan for years.

## Talk on Dentistry

*By Dr. Blatchford, Port Arthur, Ont.*

Rotary night on Friday was the occasion of a vocational talk by Dr. E. A. Blatchford, who entertained the members of the club for thirty minutes with a very informative review of some of the more up-to-date methods and the theories of the dental profession. By means of a clearly drawn diagram showing three teeth in section with their relation to the part of the human jaw in which they find their setting, he made it easy for his hearers to know the places where disease and decay are likely to set in. The doctor strongly advised against the use of a toothpick. He also commented on useful items of diet which might be calculated to produce the best results in the preservation of the teeth.

## Correspondence

Flesherton, Ont., February 26, 1925.

Dr. A. E. Webster, R.C.D.S., Toronto.

Dear Dr. Webster.—I have just read Dr. R. O. Winn's letter, re patient with oral ulcers, in the "Dominion Dental Journal."

Without advocating it as a general cure-all, I may say that I have had success in one or two obstinate cases, by using "Caulks' Mercitan Lotion" in water 1-4, several times a day.

This condition, I believe, is frequently associated with cases of gall stones. At any rate, a medical or X-ray examination of the Gall Bladder or the Pancreas might possibly reveal the cause. The following taken internally is good for such ulcers:

℞ Magnesia ℥ gs.
Bismuth Subiut ℥ ii
Soda Bicarb. (Howard's) sat. sol. q.s. ℥ ii
Sig. ℥ gs. half hour after meals

Hoping this may prove helpful to Dr. Winn and others, I am,

Yours truly,

E. C. MURRAY.

## Book Review

Curious Observations on the Teeth. A reprint of one of the oldest books on dentistry in the English language, by Charles Allen, Dublin, 1687. It is reprinted by John Bale, Son and Danielsson, London, England.

There is an introduction and six sections, in all less than thirty pages. It is the author's knowledge of the teeth that is set down. On the whole

it is exceedingly limited but has a good deal of worldly wisdom mixed up with it. His chief difficulty seemed to be the want of specific terms with which to express his ideas. He describes the enamel as "the cuticula or scarf skin for like unto this it is bloodless and altogether destitute of sense and defends the extremities of the vessels. It has pores for the perspiration of the excrements of the tooth."

## Obituary

Mr. Jack Williams, vice-president of the Williams Refining Company, Buffalo, N.Y., died of typhoid following pneumonia, January 8th, 1925. Mr. Williams was born in Nanaimo, B.C., August, 1893. As a boy he lived in the Yukon, later attended Upper Canada College, Toronto, from which he matriculated into the University of Toronto. He graduated from

JACK WILLIAMS

the University of Kansas and afterwards spent two years in the study of law. When the war broke out he joined the first American flying units. He was among the first in motor boating, fishing and hunting. He had travelled to most of the noted places on the five continents. Personally and in business life he was an example of uprightness and geniality.

**FOR SALE CHEAP**—A Dental X Ray in perfect condition—only used seven months. Reason for selling, owner going away. Write Box 16 DOMINION DENTAL JOURNAL, 73 Richmond West, Toronto, for particulars.

**FOR SALE**—Ritter Electric Dental Engine, cable and bracket, also Foot Power Dental Engine and Cable, both complete. Apply C. E. Klotz, 94 James St., St. Catharines, Ont.

Dominion
Dental Journal

Vol. XXXVII TORONTO, APRIL, 1925 No. 4

# Original Communications

## Problems We Have in Common

J. J. Craig, D.D.S., Peterborough, Ontario

*Read before the Standard Medical and Surgical Clinic of Peterborough.*

I was pleased indeed when I received the invitation to speak to you men because it proved to me you were interested, as progressive Physicians and Surgeons, in the advancement Dental Science has made in dealing with the relationship of Oral Sepsis to Metastasis. Benjamin Rush who signed the Declaration of Independence in his letters as early as 1801 relates a case where he cured rheumatism of the hip joint by the extraction of abscessed teeth, furthermore he makes the statement which is substantiated by recent investigations that it is not necessary they be accompanied by pain in order to produce systemic disease. In 1911 Wm. Hunter made a very bitter attack on what he termed American Dentistry, in his paper on the relationship of oral sepsis and pernicious anemia. What he styled American Dentistry which originated in the London Dental Shops that called themselves American and were no more representative of the better class dental practice than the perverted statements of the veriest medical quack represent the ablest and best of the medical profession. Yet, he has started an investigation that has changed the practice of Dentistry so completely that now the mechanical side of dentistry is in a subordinate position to that of Dental Pathology. It is only during this past fifteen years that men like Solyer, Goadby of England, Billings and Rosenow of the United States and many others have proven through animal experimentation and clinical observation that oral sepsis does, in many cases, set up secondary infection in other organs of the body or by contiguity infect the fauces, tonsil, pharynx and maxillary sinus. The lymph and the blood during their circulation visit all parts of the body. You can easily understand how infection situated at the end of the root of a tooth that is constantly being forced into its socket during the process of mastication may force infection into the blood stream. Sir Kenneth Goodby in 1899, while

a student in the pathological department at Guy's Hospital, succeeded in showing that the cause of death in an undiagnosed case was a generalized infection arising from pyorrhea and the miliary abscess in the liver contained the same organisms that were present in the pus of the mouth. During the world war he had the opportunity of studying the infective process in bone wounds in the body. While the process was not exactly similar, he notices there was always a rarefaction of the bone immediately surrounding the infection. Have we not a similarity here to the infective process at the end of the root?

Billings was the first to show that infected areas at the roots of teeth were many times the cause of arthritis, endocarditis, nephritis and many other systemic disturbances.

Rosenow, first in Billings clinic and later with the Mayos, evolved the theory of elective localization. Bacteria taken from a dental foci of a patient suffering from arthritis deformans and injected into an animal will, in the larger percentage of cases affect the joints of the injected animal. Rosenow has performed some wonderful experiments and his results are equally amazing, so much so, that you would think there was nothing short of extracting every pulpless tooth.

Miesser and Gardiner of the Mayo Clinic in a series of experiments got the following very interesting results: 50 rabbits were injected with culture obtained from the infected teeth of 9 patients who presented clinical and cystoscoptic evidence of pyclonephritis. Lesions occurred in the kidneys of 82% of the animals injected, while lesions in the other organs were comparatively light. Lesions occurred in 84% of the nineteen animals injected with streptococcus isolated from dental foci of patients with focal nephritis. Of the eighty-nine rabbits injected intravenously with streptococcus isolated from dental foci of thirty-six patients with arthritis 81% showed involvement of the joints, 48% involvement of the muscles, 35% involvement of the muscles and joints. Lesions in other tissues and organs were slight. So I could go on and give you results of experiments to show that in nearly every instance there was a direct connection between the dental foci and the secondary infection as practically every animal passage seem to demonstrate. In the case of four dogs, the cuspid teeth were devitalized and infected with a culture from a dental foci from a patient suffering from nephritis, and later on, necropsy, and on urinary examination not only did they find evidence in the urine, but recovered the organism from definite lesions in the kidney.

The results of these experiments and many others that they have carried out would seem to prove the statement I made a short while ago, that it would be very dangerous practice to leave any pulpless tooth in your patient that might become a foci of infection. Many other investigators were unable to get the same results with the same technique. Perhaps there was some human element that entered into the experiments that caused the failure, or as Rosenow himself says, "Maybe they did not select the right cases."

The Michigan State Dental Research Committee, who occupy a middle position geographically between the radical progressive West, and the ultraconservative East, carried on an investigation that included patients giving no histories. Cases giving no histories were interesting in that 51% were positive and 49% per negative. More than 80% of the cases included in the report gave histories of arthritis, neuritis, myocarditis or nephritis. Arthritis is the most common suspected of secondary effects.

More to the point we have the figures of those giving one or another of the above enumerated diseases; here 67% were positive as against 33% negative, of those having no evidence of systemic diseases, 26% were positive and 74% were negative.

After treating 25 infected teeth they give the following conclusions. This work has just been well begun. It is far from being flawless, but our efforts, so far, have proved to us at least, that all pulpless teeth are infected in six months after pulp removal, would be far from the truth. We are certain that sufficient work has been done in our laboratories to make the following definite statement. How often are infected teeth the primary foci? No such sweeping statement can be made, for admitting that the teeth may, and do, influence general health, we can conceive of no clinical nor experimental method of proving how often they are the initiating factors.

Can root canals once infected be made and maintained aseptic. In a general way we have been successful in answering this. We are quite positive in our statement that they can. We have convincing evidence that treated teeth may remain aseptic for many years. We cultured cases that were found aseptic at the apexes many years after treatment. We confess, however, that if asked how often this may be accomplished with present methods of treatment, the answer would remain more or less of an open question. The importance of more exact methods of diagnosing radiolucent areas at the apical ends of roots must be evident to you all.

## Factors in Diagnosis.

Diagnosis by Blood Chemistry is dependent on the finding of uric acid in the blood. If the uric acid content in the blood is above normal, this is indicative of nuclear degeneration, which means that somewhere in the body there is a foci of infection, not necessarily in the oral cavity. After having found by your Blood Chemistry, that there is an existing foci, you must by other means, principally radiographic, determine if it is oral or situated in the many other parts of the body that may harbor foci of infection.

Diagnosis of oral infection by blood examination:—It is probably of little value. It depends on the finding of a particular leukocyte. The advocates of this diagnostic method claim they have always found it present where they examined the blood in every case that had an oral septic condition. It is doubtful if it is of much help for after finding your pet leukocyte you must then proceed with your X-ray pictures and clinical examination to determine the location of your oral infection. Diagnosis by Blood Chemistry and blood examination of an existing oral foci is only an aid that must be substantiated by a good set of radiographs and a thorough clinical examination. We may set aside blood chemistry and blood examination and say, that only by a thorough clinical examination and a good set of radiagraphs along with a medical history of the case can a dependable examination be carried out.

X-ray pictures do not show infection. No radiograph has yet been made that will show a single bacteria. At best they can but show the different densities and character of the bone supporting the teeth. Now I do not want you to misunderstand me and be interpreted that I am making light of the use of the X-ray, but I want you to understand that the X-ray is only a very good help in the making of a proper diagnosis.

Sir Kenneth Goodby, who did a great deal of work during the war in connection with infected bone wounds, says "Radiographs of infected bone showed that associated with the infected process rarefaction was a striking feature. Even in simple streptococcal infections this loss of opacity to X-rays in some instances may be excessive, but does not always indicate destruction of bone, nor that it is destroyed and incapable of regeneration. That radiographs of the jaws affected with chronic streptococcal infections of the mixed type anaehobic bacteria such as Bacillus fusiforms and Bacillus necrosis commonly show areas of translucency, but great care must be exercised in assuming that even such an area is an actual cavity.

Thus we see that the assumption may be carried to extremes.

What then are the features of those radiolucent areas that guide us in our course of procedure?

The character of the bone. If there is a distinct line of demarkation surrounding the area, that is where you have a sclorosis or condensing asteitis, you have an indication that nature is putting forth an effort to control the spreading of the infection. Whether or not there is a general or constitutional reaction to the invading organism on the part of the host, you can be very sure there is a favorable reaction of the tissue immediately surrounding the area. The general condition of the body being such as we would consider not of a serious nature, say a slight attack of gastritis or perhaps a slight pain or rheumatic condition with no lengthened history of occurrence. We would say there was an area that could be eradicated by proper treatment.

Then suppose the radiolucent area was of a defused type, there is no apparent line of demarkation between the area and the surrounding bone. That we have a rarefying osteitis instead. Here you see there is no reaction on the part of the tissue to resist the invading organism. We would therefore have to consider the general equilibrium of the body to determine what would be best to do in this case. If the equilibrium of the system was high in resistance, the secondary infection not of a serious nature and the tooth a very useful one to the patient, we would in all probability consider the treating of this tooth. But with a radiolucent area at the end of the root with the gravity of the patient's illness serious, we should not hesitate to extract both teeth.

Dr. Box in his studies in Periodontal Pathology gives the following description of rarefying and condensing osteitis:—

In the fibrillar connective tissue which has been formed subsequent to the non-infective absorption of bone, there is to be noted an extensive small cell infiltration which also, in certain areas has entered the narrow spaces. The activity produced by chronic inflammation in the soft tissues in the narrow spaces or Haversian canals result in certain striking changes, either the calcified ground substance is absorbed and replaced by a young cellular form of fibrillar connective tissue, or the marrow spaces undergo progressive reduction in size by new formed lamellae on their walls. These alterations are named respectively rarefying and condensing osteitis.

The rarefaction of the bone in infective rarefying osteitis occurs by enlargement of the medullary spaces and the Haversian canals. The soft structure of the bone becomes very cellular and vascular and is converted into granulation tissue. Throughout this tissue there is a marked

filtration of lymphocytes and plasmacells. Under the influence of this tissue the ground substance of the bone becomes absorbed.

In condensing osteitis through increased osteoblastic activity the lamellae undergo progressive thickening and the narrow spaces and Haversian canals are correspondingly reduced. In the alveolar process, this condition is frequently noted about teeth in over function. Here it may be looked upon as a compensatory effort on the part of the bone to maintain a state of mechanical equilibrium. The toxins of bacteria of low virulence by their mild irritation, are also regarded as a causative factor in the production of condensing osteitis.

The condition of the cementum involved by that area. If you have a rarefaction of the cementum then that tooth is negative to therapeutic treatment through the root canals. If the tooth is favorably situated for apicocatomy and the tooth a very valuable member to the patient it should be resorted to in an endeavor to put the tooth in a healthy condition. Any denuding of the cementum calls for surgical treatment either extraction or apicocatomy, plus, thorough sterilization of the root canals, followed by a good root canal filling. *The lamina dura should be studied.* Any break in the continuity of the lamina dura should be viewed with suspicion, yet you can have a break in it, your radiolucent area at the apex, caused by traumatic occlusion due to too high a filling or a crown projecting above the line of occlusion and yet have a vital tooth.

The size of your radiolucent area is not so important for any destruction of bone large enough to be shown by the radiograph, is, you all will admit, large enough to contain many bacteria. More thought should be given to the character of the bone immediately surrounding the rupture in your lamina dura.

Dr. Molt, of Chicago, says, "In deciding upon the advisability of the operative procedure, and the type of operation required, it should be borne in mind that there are three factors to be considered in their bearing on infection.

1. The virulence of the invading organism.
2. The resisting power of the patient.
3. The possibility of inoculation of the patient with an overwhelming dose of micro-organisms with their toxins.

There is another phase of oral infection that I want to call your attention to. Up to this point we have been dealing with radiolucent areas at the ends of roots and the possibility of their being a foci of infection. Sir William Hunter who fathered the theory of oral sepsis in the role of systemic disturbances never thought of periapical infection, and dealt with general septic conditions of the mouth as revealed by a clinical examination. It was to this condition that Hunter called our attention, and today I believe, this is almost overlooked in the search for the deeper infections of the jaws. Let me say, I am convinced, that deep pyorrhea pockets, incipient pyorrhea, or a general gingivitis and filthy mouth to be a great source of ill health. Do not look upon the gold crown as having an area at the roots, it may and it may not, but also note the condition of the gums, are they irritated and inflamed? Had your patient an ulcer the size of a 25c piece on their body you would be worried and they, very much so, over the cause, but suppose your patient has a gingivitis 1/8 of an inch deep surrounding the circumference of all their teeth, what size of an ulcer would you have?

*Quoting from Dr. Box's Studies in Periodontal Pathology.*

The reaction of the tissues to mild injurious agents from a histopathological point of view is of equal importance to the reaction to strong irritants, manifested in acute inflammation. Its significance in dental pathology has not been fully appreciated. The mild injurious agents include micro-organisms which produce weak toxins, and also strong toxins from different sources which have been so diluted as to act as mild irritants. From the standpoint of focal infection, the greatest problem in the dental profession today, and from our present viewpoint as well, the inflammatory reaction to these mild irritants is of much greater moment than the reaction to strong injurious agents.

The lack of appreciation, pathologically, of the relation of these reactions to those produced by the strong irritants, and the fact that when an injurious agent acts mildly, one or all of the classic signs of acute inflammation may be lacking, account largely for the obscurity surrounding this phase of the subject.

Dr. Box of Toronto has shown us what a slight thickness of epithelium lining there is in the gingival crevis and often how there is no protection at all between the blood vessel and the surface of the gingival crevis, here the bacteria have direct access to the blood stream. So I say in our eagerness to find the deep seated infection of the jaws let us not overlook this general septic condition of the mouth.

We now come to the time when the patient comes to your office with the statement that she is not well and her doctor says possibly her teeth are causing her trouble. Right here I want to say, that you are up against it with that kind of a report of her general condition. Doctors must send a written history of the case or get in touch with the dentist and state to him their findings. I think the dentist should at least know the nature of the patient's condition, whether recent or prolonged, the gravity of the illness, that they suspect focal inspection, that they have or have not examined all other possible sources of focal infection, that the patient's vitality is normal, subnormal, or very low. If, in his general routine examination he has taken X-rays, these should accompany the patient. The medical man is within his rights in making his routine examinaton to note the general conditions of the oral cavity. If he has the facilities of making a radiographic survey I do not see any reason why he should not, but here he should stop, for if it be true that the dentist has not sufficient training in general medicine and pathology to understand the medical man's point of view, then it is equally true that he is not sufficiently trained in Dentistry and Dental Pathology to go any further with the examination of the patient's teeth. Here the patient with the report of the doctor's findings and X-ray films should be handed over to the dentist for a thorough examination and a report on his findings and what he advises to put her mouth in a healthy condition. The dentist should first make a clinical examination as to general conditions of the tissues and oral hygienic conditions. If the patient has her films, he will proceed to study the different densities of the bone and radiolucent areas at the apex, is this area walled off by a condensing osteitis, this would indicate an attempt by nature to control the infection, or in this area rarefying osteitis with no attempt on the part of nature to control the infection. Is there any break in the lamina dura? The periodental membrane, is there an undue thickening of it, indicating a rarefying pericementitis fibrosis, the result of

a traumatic occlusion. The cementum, is it eroded, if so the tooth is negative to therapeutic treatment. If there is a hypercementosis nature is endeavoring to block up the foramen to prevent escape of the infection? Pyorrhea pockets? what depth? Is the infection diffused through the bone, or apparently walled off and confined to the pocket? Is there any degeneration of the alveolar process indicative of incipient periclasia; he should proceed to check up his radiographic finding with his clinical findings. Determine what teeth are savable and what are not, keeping in mind the report of the patient's general health. If the patient has only a slight attack of rheumatism probably at first we should not hurry to extract every tooth that may show an area. In arthritis, there should be the closest co-operation between physician and dentist, for I think they have shown by their work at the Mayo clinic that if you hope to obtain the best results from the removal of the foci it should be done before there is any destruction of the joints.

I know you gentlemen are anxious to help your patient get rid of the infection but no one can say that this particular tooth is the foci of infection. No tooth has been extracted yet that was not done solely on suspicion therefore, when the patient's condition is not of a serious nature we should try first to put a good serviceable tooth in a healthy condition, by treatment. Suppose you have one of your incisor teeth with an area at the root end with two perfectly sound teeth on either side, we should hesitate before extracting the tooth, the removal of which would require the mutilation of the two sound teeth on either side in supplying a substitute, or the tooth may be one that is supporting or is very necessary for the stabilizing of the denture.

Your patient's history is, that he has pains in the back of his head and down his neck, or he is troubled with headaches, or his eyesight is not just as good as it has been, perhaps a little touch of gastritis, I would not advise the extracting of a very important tooth to that patient's masticating mechanism without first trying some of the means we have at hand to put that tooth in a healthy condition or leave it there just as it is.

On the other hand, the patient is tubercular, syphilitic, has a cardiac envolvement or nephritis, I would remove every tooth to which the least suspicion could be attached. I want you to understand that when the gravity of the patient's illness demands radical treatment I will go as far as anyone in the removal of questionable teeth. On the other hand, when the patient's health is not so serious, I will take a more conservative method to save every serviceable tooth for that patient.

Until we get some method of proving that every radiolucent area is in an infected area, we will have to gather all the facts we can about the case and then proceed cautiously.

In many cases of valuable teeth to the patient we would submit them to a flap operation securing a culture from the radiolucent area and determining whether or not it was infected, and just what organism or organisms are present.

Another point for co-operation between physician and dentist is how many teeth should we extract for this patient at one time. This, I think, is too often overdone, in many cases the dentist is prevailed upon by the patient to take them all out and he does so, rather than subject the patient to another anesthetic.

This I think is the duty of the physician to advise the dentist as to what number of teeth may be safely removed for the patient at the first

sitting and so on. If the doctor has not mentioned this to the dentist and the dentist knows that the removal of more than one or two teeth is going to throw a great quantity of infection into the patient's system he should first consult the patient's physician. I know you do not place a great deal of faith in vaccines but I know of no better vaccine treatment than by the removal of septic teeth in series.

Another thing I want to point out:—Very often we are asked to extract teeth that are all covered with calcus and food debris without first having been given a chance to clean the mouth or to put it in any kind of a favorable condition for operating. I ask how many of you surgeons would perform even a minor operation in a field of such filth and sepsis and have any chance for a favorable prognosis. Much of our post operative pain and soreness is due to the forcing the forceps down over teeth covered with calcus and infected material thus driving this into the tissues. How can we help but have a slow and painful recovery. Let us have an opportunity first of removing this septic material from around the teeth of the patient before extracting.

In a very small way I have tried to cover some of the points in oral sepsis that is of common interest to us both. Much has been written on this phase of medicine and dentistry, much more will have to be done along scientific lines before we will be able to say this tooth is infecting your system. Until that day arrives we will have to work (more) together for the future safety of our patients.

I want to say a few words on "Diet," and its relationship to the Teeth.

We all realize, if we are going to meet the situation of "Dental Decay," and the serious consequence that follows the ravages of Dental caries in the patient's mouth. We must begin with prenatal conditions.

We must first build a sound set of Teeth, supported by a well-developed set of Jaw-bones, and having developed a sound Dental mechanism, we shall have to teach our patient's how to prevent their loss.

The child depends on the mother for its nourishment during the greatest growth period of its life. The child depends on her for all the material out of which the body is made, including the Teeth.

Let us begin with the prenatal period. Right here, we look to the Medical Doctor for very valuable assistance.

We all know how reluctant a prospective mother is to visit her dentist during pregnancy so we do not get the same opportunity of instructing the mother in the essential foods for developing sound teeth, and well formed bones.

Mothers should receive a *Diet* high in calcium, along with a sufficient balance of phosphorus and vitamines.

The body building materials for the developing infant come from only two sources, the mother's food or from her own tissues.

If she does not eat the right kind, and amount of food, and assimilate it, then nature takes care of the baby first, and her own body suffers. For example—The Baby must have calcium, phosphorus and vitamines to grow and develop sound teeth and bones.

If these substances are not supplied by the mother's food—they are taken from her own teeth and bones.

You all know the old story—"a tooth for every child." This is not necessary, providing the mother eats suitable foods, and takes the proper care of her teeth.

As I mentioned before, how *very* seldom a prospective mother visits a Dentist during pregnancy—if they do come for treatment during early pregnancy, they usually avoid telling us of their condition. So we do not get the opportunity of telling them what they should eat. Naturally we look to the "Medical Doctor," for instructing them in their diet.

*Tooth Decay*, during this period, as at any other time, is evidence that the proper health essentials are not being observed, or that there is some abnormality.

I think the attending Physician should advise his patient to see a Dentist as soon as possible, informing the Dentist of her condition—thus avoiding long sittings. There is no reason why any Dental operations that are conducive to the patient's immediate health and comfort should not be undertaken.

### The Nursing Infant.

As a rule the Dentist seldom sees the child before two years of age. Then normally it has all its first set of teeth, and probably they have begun to decay—and "Baby has Tooth-ache." So I would ask you to have the mother take the child to the Dentist for instruction in the care of the mouth.

The child should be breast-fed. There is no substitute which equals the mother's milk when all conditions are normal.

The development of the Baby's jaws, teeth, skull, facial and throat muscles is best furthered by breast feeding. The quality of the natural food, the exercise and stimulation to growth, which comes with natural food and nursing, is not to be had by artificial food and bottle nursing.

The vigorous use of the teeth is made necessary, both for the well being of the teeth, and their supporting tissues, and for the general health.

Therefore—if you are instructing the mother in what food to give the baby, when the time comes for some addition to the natural nursing, remember the teeth are in the mouth to grind food so that it will be finely divided and thoroughly mixed with the saliva, therefore, they should be used.

Hard foods are *very* essential to the development of sound teeth, and healthy supporting tissues.

### Harmful Habits

1. Thumb or finger sucking—causes disfigurement of the jaws, and face, and brings about tooth irregularity.

2. Using a Pacifier—causes flattening of the mouth and tooth irregularity, and introduces air into the baby's stomach.

3. Mouth Breathing is a sign of obstruction in the air passages—usually adenoids. Give this prompt attention, it causes irregularity of the teeth, disfigurement of the face, air starvation, and greater susceptibility to children's diseases.

From the experimental work done by Professor and Mrs. Millanby in producing rickets in puppies by calcium and vitamine deficiency and the work of Howe in Boston on monkeys, producing caries and pyorrhea and the decalcifications of bones, who knows but right here is being laid the basis for the development of pyorrhea manifestations in our young and early adult life.

In conclusion I want to quote a few words from Dr. C. N. Johnston and Dr. Rosenow. "Might there not be a basis of nutrition and metabolism back of all this. Are we not approaching the affections entirely

from the wrong point of view? When we impress people with the proper methods of living, when we teach them what to eat, and how to breathe, and particularly how to think, we shall do more to eliminate disease than we shall by extracting all the pulpless teeth in all the mouths of all the people."

Dr. Rosenow ends one of his last papers with the following:

Just how often and in what particular cases clinically measureable benefits will result from the removal of Dental or other foci of infection, after they are once established, remain for the future to decide.

A careful study of the clinical and experimental data now available, shows that a sane and comprehensive effort toward the prevention and cure of septic foci in Dental and other areas, is a sanitary measure of the first rank, that should result in the alleviation of suffering, better preservation of the tissue in old age, longer average duration of life, increased mental and physical efficiency, and the prevention and cure of acute and chronic systemic diseases, and through the laws of heredity, make for a sturdier race.

In the prevention and eradication of focal infection in the Dental area, the Dental profession may be depended on to render its large share of service in the preventive medicine of the future.

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# Drug Tolerance

"A systemic intoxication from the drug or drugs used is seen most often in individuals who have a low-grade tolerance for the drug." That means that some individuals exhibit an idiosyncrasy for the toleration of the drug used. These are very few and may be dismissed as negligible. In twelve years' experience with the use of novocain or procaine and suprarenin I have never seen a patient to whom I could ascribe such an idiosyncrasy. In reviewing my experience I cannot ascribe any toxic symptoms to the use of the previously named drugs that cannot be guarded against by more improved and careful technic of administration. So far as the toxic effects of novocain or procaine are concerned, 22 grains have been injected on one occasion, and 1,000 c.c. of a 1 per cent. solution on another, without any toxic effects manifesting themselves. Further, the investigations conducted at Cambridge University and in other places discover that novocain or procaine is six to ten times less toxic than cocaine. In other words 6 to 10 grains of novocain or procaine may be injected to every grain of cocaine, or 6 to 10 c.c. of a 1 per cent. to 2 per cent. solution for every 1c.c. of a 1 per cent. to 2 per cent. solution of cocaine, or a 6 per cent. to 10 per cent. solution of novocain can be used to a 1 per cent. solution of cocaine, or a 1/5 per cent: solution of cocaine is more toxic than a 2 per cent. solution of novocain.

# Horticulture as a Hobby for the City Dentist

F. G. Brethour, D.D.S., L.D.S., Toronto.

I don't think there is any doubt at all, but that the Dental Profession is the most exacting of all the professions, and I have heard it said that the professional life of the dentist is only 20 years. Now this may be so or it may not be so, but those of us, who are hovering around this allotted time, have found that it has made the hair get prematurely grey, and the nerves a bit wobbly. Why is this so? It must be the long hours we spend in a close office, the intense concentration that our occupation demands, and as our work is with nervous people and mostly painful in its nature, our own nerves are at high tension nearly all the time. It is necessary then for the young dentist to see to it that he is going to keep himself physically fit to carry on, and to give his patients his very best services, and to have that real healthy buoyant life so well that he will enjoy his work. There is only one way to do this and that is to have plenty of outdoor exercise of some form or other, that will supply plenty of fresh air, and that will furnish exercise for those muscles that he is not using.

Some will join a golf club, and that certainly is a very good thing to do, as money spent that way is well spent, but it is rather an expensive hobby and apt to lead into an extravagant way of living, and to entice the young man away from his office rather too much Some will buy a car, but this is not so good as you fail to get the rightful exercise, and has the further faults of the above. Then there are tennis, bowling, etc., but these are too spasmodic, but they all help. So taking everything into consideration where one gets plenty of fresh air coupled with enjoyment, and where one will get the most real good with the least expense, I would suggest that oldest of occupations as old as Adam, namely, gardening.

Horticulture is an *ideal* hobby for the city dentist. It is not merely a summer recreation, as you will be surprised to find how much there is to do even in the winter. It keeps you out in the open, where the smell of the new turned up earth tunes up your appetite, it brings into play a whole lot of muscles that you forget all about since the anatomy days, it keeps you at home, it encourages a love for the beautiful in nature, and best of all it smoothes away all worries and discouragements and makes one feel that life is worth living after all. Some would say I would like to do something where there is a chance to excel, well here is the real thing, for to the scientific, here is a field, the fringe of which is only touched. All that is known of plant life and plant-breeding and kindred subjects is a mere atom of what there is to learn. Most of the great men of all time have been interested in gardening, and who is it that has given to the world the new discoveries in plant life or the new and beautiful hybrids that are appearing all the time? It is the great surgeons of the medical profession, the learned judges of the courts, the professors of our colleges, who, in the few spare hours that they have, are discovering new truths and introducing new and remarkable flowers and fruits and grains. To the scientific dentist and the research-worker, and who amongst us is not in that category?

here is a never ending occupation that will require all the brain power that God has given you and which is possibly the most health-giving, the most interesting and the most satisfying of all hobbies.

Now, my advice to the young dentist is to buy a house, even to go severely into debt in doing so, as it will be the best investment you will ever make. See to it that you use good judgment in getting a lot big enough with soil good enough to give you half a show. You must look upon upon your home as the greatest of your earthly possessions, and you owe it to yourself, to your neighbors, and to the community, that you should beautify your home. You can do this by having nice lawns, nice flowers and climbers, nice trees and shrubs. You will say "Why I don't know the first thing about those things." That is all the better, for what is more pleasant than learning something you don't know anything about? Buy some good horticultural books, join a good active horticultural society and attend the meetings, and visit all the real good gardens in the neighborhood, taking convenient notebook, and ask all sorts of questions, but for Heaven's sake when your host is showing you his choice flowers, don't keep talking about your low score or about your peach of a new car. In gardening a good motto to follow is "Make haste slowly," and do a little at a time and do it well. You will make a lot of mistakes but experience is a good teacher. After a year or so your home will be more to you than the mere place you sleep in at nights and the place you pay taxes on.

Flower growing is possibly the most interesting part of horticulture for the dentist, although any of the other branches could be made equally so. One of our essayists at the Academy last winter who came from Boston told me he specialized in conifers and thought he had everything in that line which were hardy there, growing many from seeds. It is a mighty nice thing to go out in your garden before going to your office and cut a nice bouquet of this thing and that, to take with you. A few flowers take away a lot of the severity of the operating room and your patients appreciate it.

Horticulture is making wonderful strides in this country. A few years ago there were only a few societies with a handful of members. Now there are more than 50,000 members in Ontario alone, and it is very satisfactory to see that some of our dentists are taking a prominent part. Dr. Bennett, Dr. Bothwell of Stratford, Dr. Clark of Hamilton, and Dr. Bradley W. Linscott of Brantford, who has become the Sec.-Treas. of the new Canadian Peony and Iris Society are well-known flower growers, and there are many others who in a modest way are doing a lot in that line. All these when the time comes that their hand is getting a little shaky, and the nerves a little unsteady, will gladly take themselves to the little farm that they have got ready and pass the few remaining years in the hobby they have learned to love so well.

It may be possible that your old hobby that you looked to merely for pleasure might keep the wolf from your door in old age. A fortune awaits the man who will introduce, for instance, a yellow peony, or a good blue gladiolus, or a nice tall free branching yellow iris. In fact any variety of flower that is an improvement on existing varieties is worth considerable to the introducer. Any fruit, any grain, and shrub or any vegetable that is new and good is of considerable value. Edison says, "The trouble with people is they do not get interested in enough things." Let horticulture be one of them.

# Eskimo Teeth, First Hand Information

W. P. Millar, D.D.S., Saskatoon, Sask.

The people of the Eskimo country must first be divided into four classes. First, the pure Eskimo, Primalur or Kogmolik; second, the pure Eskimo, Semi-civilized or Huskies; third, Half Breed Eskimo; fourth, Whites.

Of the first class or primalur type, the writer had a chance to examine only a few mouths but found them all with perfect teeth and no pyorrhea, but very filthy. Their teeth were much eroded and worn, especially among the women, who do a good deal of work on skins with their teeth, such as shaping sealskin footwear called mukloks. Besides this they eat raw meat and fish which require a great deal of mastication.

The second class or huskies are the natives who live near the mouth of the Mackenzie River and west from it, who have been in contact with civilization for years through the whaling expeditions. They retain the thick bones of the alveolus which seems natural to them. There is no decay or disease present in the mouths of the older people, although I found some caries amongst the younger people, no doubt due to the fact that they are getting sugar, candy, canned goods, white flour, etc., that were foreign to the diet of the older ones, at least during their childhood. There was no trace of calculus or pyorrhea. The only teeth they were lacking were the ones lost by accident. As the burial custom of these people until very recently has been to place corpse on top of the ground, covered only with some drift wood, I had an opportunity of examining a large number of skulls, and found in most cases all the teeth present with the exceptional case with one or two absent from accidental causes. One old man of this class whom I examined had a right central and lateral missing. The central which had been knocked out was used as a pattern to carve a tooth from bone and managed to keep it in place for a number of years before the lateral loosened from the pressure and was finally lost. In this class I found two half sisters of the same Eskimo mother. One had a white father, the other had a Portuguese whaler. The one who had the white father had to lose practically all her teeth from dental caries, while her half sister had perfect teeth, free from caries and gingival disease. This could hardly result from diet as the two lived under the same conditions where there is little choice of food to make variations possible in the same family. This must surely have been the result of heredity.

Class Four. I found very much the same conditions amongst the whites as might be found among a like number of whites anywhere else.

*Editor's Note*:

Every now and then some dental authority proves or disproves the cause of dental caries by the condition of the teeth of the Eskimo. In this issue is an article on Eskimo teeth from a Canadian dentist who visited the Eskimo country in his professional capacity. He makes it clear how almost any condition can be found from skulls brought from that district. The division of the inhabitants into four classes gives one a better grasp of dental conditions among the Eskimo.

# Planting Canadian Dentistry in China

J. E. Thompson, D.D.S., L.D.S., Union University, Chengtu, China

A very interesting piece of pioneer work is being done by a few Canadian Dentists, all graduates of the R.C.D.S., in Chengtu, West China, 2,000 miles inland from Shanghai, up the great Yangtse River, and about 31° North Latitude, which runs through the northern part of Florida. The first of the pioneers was Rev. Will Adams, M.D., L.D.S., D.D.S., who was later compelled to return on account of illness. Then following, A. W. Lindsay in 1907, J. E. Thompson in 1909, H. J. Mullett in 1917, M. R. Anderson in 1919, and R. Gordon Agnew in 1923. Besides these graduates there are two other dentists, one American and one Chinese. Dr. Morton Yates, graduate of Harvard, who went out in 1921 and T. C. Whang, a graduate of Chengtu Union University Dental College in 1921. Previous to the arrival of these men in China there was no school of dentistry. True, a few Chinese who have studied abroad, mainly in Japan, were practising, but their work was quite inferior. Recently a number of Western dentists, chiefly English and American, have established private practices and their assistants have left them in many cases to start for themselves. Some of them can do fair work along limited lines and are better than the old time quacks and the graduate of the Japanese six months' course. In 1917 an American dentist went to Pekin and is doing some teaching, but it must be on a very small scale. As in other achievements the Province of Canton is the most advanced and has about two hundred and fifty so-called dentists and the leaders among them are bright fellows and are trying to form a Dental Association and naturally will soon try to establish a college.

In West China there are about one hundred million people with only this one Dental College in Chengtu. It is like founding a school in Cincinnati for the whole of the United States and far worse than that because there are no good transportation facilities of any sort in West China. The Union University of Chengtu, which was founded sixteen years ago, now has a campus of 140 acres outside the city wall, the grounds have good roads and trees and fine buildings, most of which have European frame with the Chinese roof with their sky tilted corners. There are eight teaching buildings including a High School and seven dormitories for students, all full, and about thirty residences for foreigners and a large school for white children. There are a few fine athletic fields. In the High School it is full to capacity, there are three hundred pupils, and two hundred and sixty in the University. Of these, twenty-two are dental students who have a good average scholarship.

In 1911 a dental hospital was built in the city which was enlarged by adding a second story in 1920. A dormitory for the students and mechanics was built in 1921. There are four small and one large operating rooms, a large laboratory, an X-ray room, which with other rooms make about fifteen in all. In 1923 the University dental clinic was started and is carried on in the administration building. The work and the teaching is divided among the various teachers. Many very difficult cases present

themselves owing to delay in treatment. However, the dentists have to be their own specialists which is a good thing for them. A fair fee is charged and a good surplus over the running expenses every year is paid to the University. The College course is six years. English is taught throughout and Chinese for most of the time. Most of the teaching is done through the medium of the Chinese language. Being a part of the University the Faculties of Science and Medicine assist in teaching the dental students. Without their aid it would be difficult to carry on.

So far there is only one dental graduate, Dr. T. C. Whang, mentioned above. Because he is Chinese he is a great help to the college and hospital. His work is not interrupted by furloughs and the heat doesn't bother him. He knows English and Chinese well so is a valuable help in translating books.

Great difficulty was experienced in getting heads to dissect. Dr. Whang went out one night and got the head of a robber who had been beheaded on the corner of the street next the hospital. It would have been very unwise for a Canadian to have done that.

It is expected that Dr. Whang will come to Toronto in 1926 to study for two years so that he may go back better prepared to teach and have a better standing among the students because he has studied abroad in the best College in the world, the mother of his Alma Mater. It is hoped that he will catch the spirit of research and philanthropy of the profession. The kindly treatment which he is sure to receive while here will help him in his studies and will cause him to return full of international goodwill toward Canada.

Materials are now being bought for the Medical and Dental College building and work will begin in the fall when the university builder, Mr. Small, returns. It was for this building that many of the profession subscribed when Dr. C. W. Service was home on furlough.

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The number of independent dental schools in the United States has dwindled, since 1921, from fourteen to seven. Of the forty-three dental schools now existing in the United States, thirty-four are parts of universities and two are parts of associations of professional schools. Of the thirty-six schools in these two groups, all but three are parts of institutions that contain undergraduate schools of medicine, with which the dental schools are, or could be effectively co-ordinated.

# Health Week—Lambton County

H. E. Hartley, D.D.S., L.D.S., Sarnia, Ontario.

Being a general survey of the work carried out during the week, with particular reference to the part played by the dental profession.

"Health education is recognized as the fundamental need of our day for the permanent improvement of community and personal health," Artemus Ward says. "It is not that the great mass of the people are so ignorant but that they know so many things that are not so."

Fully realizing these facts, the Ontario Board of Health recently carried out a health week programme in Glengarry County with great success. It was recognized that the possibility of health education in this manner brought about splendid results and showed the way for extensive work along these lines within the province.

To Dr. Logie, our local health officer, we must give due credit for bringing this to Lambton County. It was his original intention to organize a health week for Sarnia only but, having heard of the success attained by the people of Glengarry, he decided to communicate with the Provincial Board of Health asking that the next health week be held in Lambton County. His request met with the approval of the Provincial Board and the negotiations were immediately begun for the calling of a conference of the dentists and physicians of the county.

At this meeting it was unanimously agreed that a health week should be held in Lambton patterned after the one so successfully carried out in Glengarry.

The third week in January was chosen as the the most opportune time. The activities of the Christmas season over, the community would be in a mood to prepare themselves both mentally and physically for the coming year.

Dr. Bell, representing the Provincial Board of Health, called a meeting in Sarnia to decide upon the preliminary arrangements. Circular letters would be sent out to all the physicians and dentists calling for their co-operation and support to be followed by a personal visit to each by Drs. Bell and McNally. Later another meeting was to be called for the purpose of forming the necessary committees.

These committees were divided into three general classes: publicity, clinic and entertainment. Numerous subdivisions of these were made including matters pertaining to window display, circulars, programmes, treatments, invitation to outside clinicians, etc. Each of these committees had some definite work to perform.

The most important subject discussed was the treatments that were to be given. It was finally decided that a patient, in order to be admitted to a clinic, must have a recommendation from his own physician or dentist. The form of this recommendation was as follows:

"I hereby certify that I am the attending (physician or dentist) of (or in the family of)

"Please examine and

(a) Refer him back with recommendation as to treatment, or

"(b) Refer him for treatment to Lambton County Medical (or dental) Association.

The dental side of this organization was to prepare articles for the press, arrange window display in the local stores, give short talks in the school on oral hygiene, tooth brush drills, and systemic diseases relating to the teeth. Arrangements were made for the various dentists to be present at the clinics on the days set for them. One night's programme was set apart as dental night and the necessary arrangements were made for the securing of prominent men in the profession to speak. A dental survey would be made of the schools of Sarnia and a chart prepared showing the conditions existing. This chart was to be presented by Dr. Webster on Dental night in conjunction with his address.

Before going into the details of the programme we shall discuss the general arrangement of the scheme of health week.

There were eight different clinics in operation each day:

I. Clinics for infants and children up to 16 years.
II. General Medical Clinics.
III. Dental Clinics.
IV. Chest Clinics.
V. Clinics on occupational diseases.
VI. Ear, Eye, Nose and Throat Clinic.
VII. Eye Clinic.
VIII. Orthopedic Clinic.

These were in charge of specialists, some of which were secured locally.

Following the clinics, round table conferences were held by outstanding men in specialized branches of medicine and dentistry when a general review was made of the cases taken care of throughout the day.

The evening programme consisted of addresses given by men and women distinguished in their own special sphere. We were fortunate in procuring such people as the Hon. G. Howard Ferguson, Bishop Fallon, Mr. E. H. Stonehouse, President of Ontario Milk Producers Association, Mr. F. A. Dallyn, Director of Divisional Sanitary Engineering, Prov. Dept. of Health, Dr. Helen McMurchy, Dr. C. D. Parfitt, Dr. Forbes Godfrey and many others.

Needless to say the outside men were well looked after by the programme committee. Dinners were given and impromptu entertainments were provided so that their stay in the city might be made as pleasant as possible.

The programme day by day was as follows:

## PROGRAMME FOR HEALTH WEEK

### *MONDAY*

Clinic for Infants and Children, 2 to 4.30 p.m.—Dr. J. T. Phair, Toronto, Dr. C. O. Young, Sarnia; Dr. Wm. Logie, Sarnia; Dr. C. F. Dunfield, Petrolia.

General Medical and Occupational Disease Clinic for Adults, 3 to 6 p.m.—Dr. T. P. Bradley, Sarnia; Dr. J. P. Hubbard, Sarnia; Dr. W. R. Tutt, Sarnia.

Dental Clinic, 2 to 4.30 p.m.—Dr. H. C. Bayne, Sarnia; Dr. M. A. Kinsman, Sarnia.

Chest Clinic, 2 to 4.30 p.m.—Dr. G. C. Brink, Provincial Dept. of Health; Dr. G. S. Jeffrey, Queen Alexandra Sanatorium, London.

*Monday Evening—Eight o'Clock.*

1. Moving Picture.
2. Chairman: Mr. Leslie Harkness, Warden of Lambton County.
3. Address: Honorable G. Howard Ferguson, Prime Minister of Ontario.
4. Solo.
5. Address: Dr. Albert Young, President, Ontario Medical Association.
6. Solo.
7. Address: Right Rev. Michael F. Fallon, Bishop of London.

Local organizations co-operating in work of day: Municipal Council of the City, Board of Education, Separate School Board, Local Board of Health. Members of these organizations were invited to occupy seats on the platform at the evening meetings.

*TUESDAY.*

Clinics for Infants and Children—10 to 12 a.m., Dr. W. B. Carruthers, Sarnia; Dr. R. MacKinley, Sarnia; Dr. J. T. Phair. 2 to 4.30 p.m.—Dr. W. B. Rutherford, Sarnia; Dr. M. McDonald, Thedford; Dr. J. F. Sadleir, Sarnia.

General Medical and Occupational Disease Clinic for Adults—3 to 6 p.m.—Dr. J. A. Bell, Sarnia, Dr. A. P. MacCallum, Petrolia, Dr. A. R. McMi lan, Sarnia; Dr. J. P. S. Cathcart, Port Lambton.

Dental Clinic—10 to 12 a.m.—Dr. W. A. Hartley, Sarnia; Dr. W. J. Bentley, Sarnia. 2 to 4.30 p.m.—Dr. H. L. Burrel, Sarnia; Dr. F. N. Sangster, Sarnia.

Chest Clinic—2 to 4.30—Dr. G. C. Brink, Toronto.

Eye Clinic—9.30 to 2 a.m.—Dr. E. D. Hutchinson, Sarnia, Dr. Wm. Logie, Sarnia.

Ear, Nose and Throat Clinic—2 to 4.30 p.m.—Dr. Wm. Logie, Sarnia; Dr. E. D. Hutchinson, Sarnia; Dr. W. B. Carruthers, Sarnia; Dr. Ellis, Sarnia.

*Tuesday Evening—Eight o'Clock.*

1. Moving Picture.
2. Chairman: Mr. Leslie Oke, M.L.A., East Lambton.
3. Address: Mr. E. H. Stonehouse, President, Ontario Milk Producers Association.
4. Selection.
5. Address: Miss Helen G. Campbell, Department of Agriculture, Canada.
6. Selection.
7. Address: Mr. F. A. Dallyn, Director, Division of Sanitary Engineering, Provincial Department of Health.

Local organizations co-operating in work of the day: Women's Institute, Orange Lodge, St. John's Court, Sons of England.

*WEDNESDAY.*

Clinics for Infants and Children—10 to 12 a.m.—Dr. C. O. Young, Sarnia; Dr. A. P. MacCallum, Petrolia; Dr. J. T. Phair, Toronto. 2 to 4.30 p.m.—Dr. A. P. MacCallum, Petrolia; Dr. R. G. McDonald, Sarnia; Dr. C. O. Young.

General Medical and Occupational Disease Clinic for Adults.—3 to 6 p.m.—Dr. J. F. James, Sarnia; Dr. G. H. R. Hamilton, Petrolia; Dr. Ellis, Sarnia; Dr. P. McG. Brown, Camlachie.

Dental Clinic—10 to 12 a.m.—Dr. Cowans, Dr. E. W. Falconer, Sarnia. 2 to 4.30 p,m.—Dr. R.. G. McGregor, Sarnia; Dr. W. F. B. Colter, Sarnia.

Chest Clinic—9.30 to 12 a.m.—Dr. G. C. Brink, Toronto. 2 to 4.30 p.m.—Dr. G. S. Jeffrey, London.

Orthopedic Clinic—1.30 to 5 p.m.—Dr. R. L. Harris, Surgical Staff, Hospital for Sick Children, Toronto,

Eye Clinic—9.30 to 12 a.m.—Dr. E. D. Hutchinson, Sarnia.

Ear, Nose and Throat Clinic—2 to 4.30 p.m.—Dr. E. D. Hutchinson, Sarnia; Dr. J. F. Sadler, Sarnia; Dr. W. B. Rutherford, Sarnia; Dr. Douglas Logie, Sarnia.

*Wednesday Evening.*

1. Moving Picture.
2. Chairman: Mrs. J. G. Taylor, President Local Council of Women.
3. Address: Dr. Wallace Seccombe, Dean of Royal College, Dental Surgeons, Toronto.
4. Solo.
5. Address: Mrs. Charles Thorburn, President National Council on Child Welfare, Ottawa.
6. Solo.
7. Address: Dr. Helen MacMurchy, Chief, Division of Child Welfare, Federal Dept. of Health, Ottawa.

Local organizations co-operating in work of day: Local Council of Women, Imperial Order Daughters of the Empire, Catholic Women's League, Daughters and Maids of England, Eastern Star.

THURSDAY.

Clinics for Infants and Children—10 to 12 a.m.—Dr. W. B. Carruthers, Sarnia; Dr. R. McKinley, Sarnia; Dr. J. T. Phair, Toronto. 2 to 4.30 p.m.—Dr. M. McDonald, Thedford; Dr. J. P. S. Cathcart, Port Lambton; Dr. W. B. Rutherford, Sarnia.

General Medical and Occupational Disease Clinics for Adults—3 to 6 p.m.—Dr. P. T. Bradley, Sarnia; Dr. A. R. McMillen, Sarnia; Dr. W. B. Carruthers, Sarnia; Dr. W. Reid, Wyoming.

Dental Clinic—10 to 12 a.m.—Dr. J. J. McKenna, Sarnia; Dr. A. W. Jones, Wyoming. 2 to 4.30 p.m.—Dr. H. A. Mustard, Sarnia; Dr. D. W. Duncan, Petrolia.

Chest Clinic—9.30 to 12 a.m.—Dr. G. C. Brink, Toronto. 2 to 4.30 p.m.—Dr. G. S. Jeffrey, London.

Eye Clinic—9.30 to 12 a.m.—Dr. E. D. Hutchinson, Sarnia; Dr. Wm. Logie, Sarnia.

Ear, Nose and Throat Clinic—2 to 4.30 p.m.—Dr. Wm. Logie, Sarnia; Dr. W. R. Tutt. Sarnia; Dr. C. O. Young, Sarnia; Dr. Ellis, Sarnia.

*Thursday Evening—Eight o'Clock.*

1. Moving Picture.
2. Chairman: His Worship Mayor Barr, of Sarnia.
3. Address: Dr. C. D. Parfitt, President Canadian Tuberculosis Association.
4. Solo.
5. Address: Dr. H. W. Hill, Dean, Institute of Public Health, London.
6. Violin Solo.
7. Address: Dr. J. W. S. McCullough, Chief Officer of Health, Ontario.

Local Organizations co-operating in work of day: Free Masons, Independent Order of Oddfellows, Canadian Order of Foresters, Knights of Columbus, Knights of the Maccabees, Independent Order of Foresters, Ancient Order of Foresters.

FRIDAY

Clinic for Infants and Children—10 to 12 a.m.—Dr. Geo. Macdonald, Thedford; Dr. R. G. McDonald, Sarnia;, Dr. J. T. Phair, Toronto. 2 to 4.30 p.m.—Dr. C. O. Young, Sarnia; Dr. W. B. Rutherford, Sarnia; Dr. R. MacKinley, Sarnia.

General Medical and Occupational Disease Clinic for Adults—3 to 6 p.m.—Dr. J. F. James, Sarnia; Dr. G. H. R. Hamilton, Petrolia; Dr. J. F. Sadleir, Sarnia; Dr. P. McG. Brown, Camlachie.

Dental Clinic—10 to 12 a.m.—Dr. E. A. Storey, Sarnia; Dr. G. H. McKay, Oil Springs. 2 to 4.30 p.m.—Dr. G. N. Howden, Watford; Dr. F. A. Walters, Forest; Dr. J. A. Drummond, Petrolia.

Chest Clinic—9.30 to 12 a.m.—Dr. G. C. Brink, Toronto; Dr. G. S. Jeffrey, London.

Orthopedic Clinic—1.30 to 5 p.m.—Dr. D. E. Robertson, Hospital for Sick Children, Toronto;

Eye Clinic—9.30 to 12 a.m.—Dr. E. D. Hutchinson, Sarnia; Dr. Wm. Logie, Sarnia.

Ear, Nose and Throat Clinic—2 to 4.30 p.m.—Dr. E. D. Hutchinson, Sarnia; Dr. Wm. Logie, Sarnia; Dr. Douglas Logie, Sarnia; Dr. W. B. Carruthers, Sarnia.

*Friday Evening.*

1. Moving Picture.
2. Chairman: His Worship Mayor Drummond of Petrolia.
3. Address: Dr. A. E. Webster, Dean Emeritus Royal College Dental Surgeons, Toronto.
4. Solo.
5. Address: Dr. Frank Woods, Professor of Orthodontia, University of Michigan.
6. Violin Selection.
7. Address: Honorable Dr. Forbes Godfrey, Minister of Health, Ontario.

Local Organizations co-operating in work of day: Trades and Labor Council, Knights of Pythias, Brotherhood of Locomotive Engineers, Carmen's Union, Order of Railway Conductors, Brotherhood of Railway Trainmen, Catholic Mutual Benefit Association.

So much for Health Week in general. We shall now describe the part played by our profession.

All the clinics were held in one building. Our own was equipped with two portable chairs, two foot engines, two fountain cuspidors, sterilizers and aseptic tables, loaned by the Dental Supply Houses. Each operator provided the necessary instruments from his own office. The supplies were provided by the Provincial Board of Health.

The dental clinic, as you will observe by the programme, was in operation every day of Health Week, both morning and afternoon, two dentists being in charge at all times. These men were chosen in turn from the practitioners of the county, each of whom willingly gave their services for at least one day. In this manner the burden of the work was fairly divided.

Regarding examinations and treatments, all patients going through the different clinics were examined and given a chart with recommendations for necessary treatment, while those who were financially unable to secure this treatment were attended to as far as it was possible in the limited time. At these clinics difficult and unusual cases were brought to light and set aside for special clinics which were conducted under the supervision of Dr. Box and Dr. Webster.

The dental clinic handled on the average of 25 to 35 patients per day for examination and minor treatments.

To act as Chairman on Dental night we were fortunate in obtaining a man who was not only a public servant but also a dentist. Dr. J. A. Drummond, Mayor of Petrolia, adapted himself to this role admirably. The first address of the evening was given by Dr. Webster, who spoke clearly upon questions relating to dentistry which though appearing simple in the asking, were really quite difficult to answer. One example of this which he discussed was "Why do not all the teeth of a baby erupt at one time?" This he answered by explaining that a baby's teeth came in as they are required according to the food he is to be given and therefore we should regulate his food according to the number of teeth he has.

His address was well illustrated by slides showing the different types of dentition and how these led up to the combination teeth that the human race have today. At the close of his address a slide was thrown on the screen giving the results of the dental survey of the school children of Sarnia. This chart showed the number of cavities, extractions, the oral cleanliness, the number with perfect teeth, etc.

Following this Dr. Frank M. Wood, Professor of Orthodontics, University of Michigan, gave a well worded address on the evils of malocclusion.

We were indeed honored in having Hon. Dr. Forbes Godfrey deliver the closing address on Health Week in which he summarized the work done and the results achieved. He also made the most important announcement that a Director of Dental Services for the Province would be appointed in the near future. We all know the significance of this step. It means that we are, as a profession, receiving due recognition by the Provincial Board of Health.

Before closing it would be well to point out the benefits which have accrued from the Lambton County Health Week, both from the point of view of the public and of the profession. It has created an opening for active public health work. It has disseminated knowledge relative to health protection and disease and will eventually be the means of introducing free medical and dental services to special classes in the community where the same is indicated and may be properly rendered. A closer relation and a better understanding between the public and the professions may doubtless ensue. From the professional standpoint it has been instrumental in stimulating a demand for medical and dental health service on the part of the public, and promoted the control of matters and services distinctively medical and dental by their respective professions.

In a few years every county in the province will have followed this splendid example and the people will begin to realize that to keep well is much better than to get well.

## RECORDS OF THE CONDITION OF SCHOOL CHILDREN'S TEETH
### 2158 PUPILS EXAMINED BY DENTISTS OF SARNIA

| | Number | Average and per cent |
|---|---|---|
| Number found with perfect teeth | 280 | 13% |
| " " " 6 year molar decayed at age 5, 6 & 7 | 258 | 12% |
| " " " " " " to be extracted | 20 | 1% |
| " of cavities in permanent teeth 6 years | 82 | |
| " " " " " " 7 " | 201 | |
| " " " " " " 8 " | 301 | |
| " " " " " " 9 " | 313 | |
| " " " " " " 10 " | 330 | |
| " " " " " " 11 " | 372 | |
| " " " " " " 12 " | 475 | |
| " " " " " " 13 " | 423 | |
| " " " " " " 14 " | 310 | |
| " " " " " " 15 " | 165 | |
| Total Number of cavities in children examined | 2978 | Ave. 1+ |
| Number of permanent teeth in children to be extracted | 230 | Ave. 1 in 10 |
| " " pupils with permanent teeth to be extracted | 150 | 7% |
| " " abscesses on permanent teeth | 99 | Ave. 1 in 22 |
| " " cavities in temporary teeth at 5 years | 47 | |
| " " " " " " " 6 " | 773 | |
| " " " " " " " 7 " | 619 | |
| " " " " " " " 8 " | 593 | |
| " " " " " " " 9 " | 322 | |
| " " " " " " " 10 " | 191 | |
| " " " " " " " 11 " | 33 | |
| " " " " " " " 12 " | 26 | |
| Total Number of cavities in children examined | 2627 | Ave. 1+ |
| " " " children with cavities, Temporary teeth | 956 | 43% |
| Number of temporary teeth to be extracted at 5 years | 28 | |
| " " " " " " " 6 " | 280 | |
| " " " " " " " 7 " | 373 | |
| " " " " " " " 8 " | 578 | |
| " " " " " " " 9 " | 294 | |
| " " " " " " " 10 " | 257 | |
| " " " " " " " 11 " | 147 | |
| " " " " " " " 12 " | 195 | |
| Total Number of temporary teeth to be extracted | 2112 | Ave. 1+ |
| Number of pupils with teeth to be extracted, temporary | 801 | 37% |
| " " " taking care of teeth | 890 | 40% |
| Oral cleanliness | | |
| Number of Good | 1002 | 48% |
| " " Fair | 715 | 32% |
| " " Bad | 463 | 20% |

# Societies

## The Ontario Dental Society

Fred J. Conboy, Chairman Board of Governors, Ontario Dental Association

*Periodontitis.*

Experience has proven that the best way to assist the dentists to get a thorough understanding of the causes and treatment of Periodontitis is through the demonstration clinic. The Programme Committee felt that we should this year give the profession an extraordinary opportunity to see and hear the very latest and best on this important subject, and consequently we have invited the three outstanding men on this continent to present their work at the convention, to be held at the University of Toronto, on May 26, 27, 28 and 29.

Dr. Harold Keith Box needs no introduction to the Dentists of Ontario; his work places him in the foremost rank among the investigators and research workers of our time. He will amplify the work covered last year and we hope he will be ready to publish the results of some very important studies, which he has been following up during the past year. The most satisfying feature of Harold Box's work lies in the fact that he is always making progress and with this constant advancement he will ultimately completely solve the great problem that confronts him. We consider ourselves very fortunate indeed in being able to provide for you these excellent clinics and we know that the profession will take full advantage of this grand opportunity to secure first hand the latest and best information relating to the treatment of this dread disease.

Drs. Paul R. Stillman and John Oppie McCall will be here to present different phases of the work, and the whole subject will be covered in an ideal manner. A more complete outline of the clinics, especially dealing with those to be given by Drs. Stillman and McCall, will appear in the next issue of this journal. In the meantime, make sure that you will be here to take advantage of this grand opportunity.

*Root Canals*

Every member of the profession realizes the absolute need of following a safe and sane procedure in the treatment of Root Canals. Very few dentists, if any, have reached the conclusion that all devitalized teeth should be extracted, but all appreciate the difficulty of so treating these teeth that they may safely remain in the mouths of the patients.

Dr. Harry B. Johnston, of Atlanta, Georgia, is an outstanding authority on this subject, and he will be with us in May to cover this department of our work under the following headings:

"Pulp Canal Opening and Filling," and

"The positive destruction of apical infection."

Dr. Johnston will also give a number of clinics demonstrating "The Callahan-Johnston method of opening and filling canals."

You cannot afford to miss this opportunity.

*Full Dentures.*

The following note from Dr. House of the Deaner Institute, Kansas City, who is to cover the work on Full Denture Construction, outlines the material to be presented:

"My lecture to the general group will be upon the subject: 'Correct Diagnosis: its necessity and value.' My clinics will show the methods and value of diagnosis, as applied to full denture construction and occlusion. I would like to have several patients who are wearing two full dentures, a full denture and partial denture, a full denture with either natural or bridge work."

This note proves that the subject will be covered very thoroughly, and the name of the essayist and clinician is all that is needed to convince you that you should be here to secure the benefits offered.

*Inlay and Bridgework—Drs. Mortonson and Mortonson, Milwaukee, Wisconsin.*

*Synopsis.*

This clinic will embody the following: Cavity preparation, demonstrated by cavities cut in large plaster modets. Wax manipulation, showing proper condensation at gingival seat. Investing wax pattern. Burning out of mold, etc. A technic for the construction of a Fixed and Movable-fixed bridge, showing different steps such as model making, porcelain tips, stress breaking, etc. A technic showing the various steps in Movable-removable bridgework. A number of finished cases will be shown.

The above will be fully illustrated by the use of lantern slides.

Dr. I. Ante has prepared a considerable amount of new work for presentation at the Convention. An outline of his clinic will appear in the next magazine.

The Clinic Committee has invited Dr. J. Galvin Woodworth, of Buffalo, to present his work on Partial Dentures, and he has decided to come.

We will publish an outline of his work.

"Should I extract this tooth or should I attempt to save it?"

This is the question that is hard to decide and yet the permanent success of our efforts and the health of the patient is determined by the conclusion which we reach. Most dentists possess sound surgical judgment but even with this ability we cannot arrive at a satisfactory decision unless we know all the facts involved. Dr. Weston Price has made a thorough study of dental infection and the relationship between focal infection and inherited and acquired resistance to disease, and he is prepared to tell us when we should attempt to treat a tooth and when it should be removed. This is a most important question; it concerns the health and even the life of our patients and we cannot conscientiously continue to practice dentistry unless we place ourselves in possession of this knowledge.

*The Programme for the "Big Dental Night" has been arranged.*

The Members of the Craft will be the guests of University Lodge, and the meeting will be held at the Masonic Temple, Yonge Street. Dinner will be served at six-thirty, and it will be followed by an hour of

entertainment. At eight o'clock we will assemble in the lodge room where the First Degree will be conferred, the various chairs being occupied by members of the profession. At the conclusion of this ceremony we will listen to an address to be given by one of the finest speakers in the Dominion. Further information supplied by the Secretary of the Craft Club, Dr. Fred J. Conboy, Spadina House, Toronto.

*Do Not Forget*

The Students' Residences are at your disposal during the time of the Convention, at a cost of Five Dollars for the entire time. Dr. Gus. Kennedy, 86 Bloor Street West, has charge of the arrangements, and the rooms will be reserved in the order in which the requests are received. The Annual Fee for the Convention, which is ten dollars, should accompany the request for a reservation. If there is sufficient demand one of the girls' residences will be taken over for the accommodation of the ladies, who accompany the delegates. Full information may be secured from Dr. Kennedy.

*Good News.*

The exhibit space arranged has all been taken up, and a number of firms that have never attended our Convention before have reserved accommodation. We are in the fortunate position that the amount of space available for exhibit purposes is not limited, and the Exhibit Committee, of which Dr. Roy Zimmerman of 5 Roehampton Street, Toronto, is Chairman, has taken over additional rooms. This new area will be in every way as good as either of the large rooms already fitted, and we will be able to provide for many of these, who have not yet made application, but exhibitors are urged to send in their request as soon as possible.

Arrangements are being made for the College "Home Coming" and the Annual Dinner Dance. A full report will be presented in the next issue.

Meals for everybody at the Hart House at reasonable charge.

Complete announcement in regard to the Clinics in Oral Surgery, and Practical Dentures next month.

For information in regard to the individual clinics, write Dr. Spence Clappison, 46 Sun Life Building, Hamilton, Ont.

Be in Toronto during the Big Week.

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The approach of spring directs our attention to the Annual Convention of the Ontario Dental Association. This year we are moving away from the noise, heat and dust of the business part of the city and we are holding the meeting at the University of Toronto, Arts Building and Hart House. The programme, an outline of which is appearing in the Dental Journals, is the best that has ever been presented to the Dental Profession in Ontario. It includes the following outstanding Essayist and Speakers:

Hon. Dr. Forbes Godfrey, Minister of Health.

Dr. Weston Price, of the Research Department of the American Dental Association, Cleveland.

Dr. Harry B. Johnston, of Atlanta, Georgia.

Dr. M. M. House, of the Deaner Institute, Kansas City.

The list of Clinicians contains the names of such prominent dentists as: Dr. Harold Keith Box, Toronto; Dr. Paul R. Stillman, New York; Dr. John Oppie McCall, New York, Professor of Operative Dentistry, New York College of Dentistry; Drs. Mortonson and Mortonson, Milwaukee; Dr. L. Galvin Woodworth, Buffalo; Dr. E. Cummer, Toronto; Dr. Weston Price, Cleveland; Dr. M. M. House, Kansas City; Dr. Harry B. Johnston, Atlanta, Georgia; Dr. Irvin Ante, Toronto; Dr. J. A. Bothwell, Toronto; Dr. E. W. Paul, Toronto; Dr. W. B. Amy, Toronto; Dr. W. L. Chalmers, Toronto; Dr. F. Jarman, Toronto; Dr. Geo. Everett, Hamilton; Dr. W. G. Trelford, Toronto; Dr. Robt. M. Box, Toronto; Dr. C. E. Sutton, Toronto.

Some of the special attractions are the "College Home Coming," the Dinner Dance, Craft Meeting at University Lodge, the class re-unions, the noon day luncheons, the Oral Hygiene exhibit and the golf tournament.

The best display of exhibits ever shown at a Canadian Convention will be arranged in the two great Halls in the Arts Building.

The Students' residences will be at the disposal of the delegates and meals will be served at the Hart House.

The complete programme will appear in the Dental Journals.

Do not forget the dates, May 26, 27, 28, 29, 1925.

*R. G. McLaughlin,*
*W. L. Chalmers,*
*H. A. Hoskin,*
*Fred J. Conboy,*
*Publicity Committee.*

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# Dr. G. K. Thomson Chosen Dean of Dental Faculty, Halifax

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At a recent meeting of the Board of Governors of Dalhousie University the position of Dean of the Dental Faculty of the University, left vacant by the death of the late Dr. Ryan, was filled by the appointment of Dr. George K. Thomson. Dr. Thomson is well known as one of the leaders in his profession not only in this province, but throughout Canada. He has also been recognized by his confreres in the United States, by whom he was elected a Fellow of the American College of Dentists. He is President of the Canadian Dental Association, the next meeting of which will be held in Halifax in the summer of 1926.

Dr. Thomson has filled many positions in the dental organizations of the country, and is at present Secretary of the Maritime Dental Association and representative for Nova Scotia on the Dominion Dental Council. During the war he was Major in the Canadian Army Dental Corps and Officer in charge of Dental Services, 6th Division at Valcartier Camp. He is much interested in the work of the Red Cross Society, and is President of the Halifax Branch of that organization.

Dr. Thomson has been associated with the Dental School since its inception as Professor of Crown and Bridge Work and Ceramics, and is also Lecturer on Preventive Dentistry. He is a native of Newcastle, N.B., and graduated from the Philadelphia Dental College in 1892.

# Editorial

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**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

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Vol. XXXVII TORONTO, APRIL, 1925 No. 4

## The Technique of Mixing and Inserting Amalgam

It is rather a remarkable thing that it takes so long to change methods of dental practice or to adapt new methods to suit new conditions. In years gone by, that is thirty or forty years ago, amalgams were judged as being good by the ease with which they could be amalgamated with the mercury, their plasticity and smooth pasty-like properties. These were amalgams of high tin content, 60 to 70% tin and the balance silver and copper. They were so soft and plastic when mixed that a filling could not be built unless all possible mercury was first squeezed out of them. Such amalgams were slow setting, contracting and low in strength. When Black did his experimenting on amalgams he found that a high silver content was necessary to get quick setting, great strength, slight expansion, and durability. With the old amalgams adaptation to the cavity walls was not difficult because of the softness and plasticity of the material, but when an amalgam is made of high silver content it is hard to mix, hard or even harsh to work and difficult to adapt. The method of mixing the amalgam in the hand was quite efficient with the old tin amalgams, but silver amalgams must be mixed in a mortar to get the best results and must not have the mercury squeezed out of them during the insertion of the first pieces which are to be adapted to the walls. The first pieces should be even sloppy and as the filling is built up and more of the mercury is expressed until the surface when completed is quite solid. Dr. W. E. Harper of Chicago has demonstrated again and again that this technique is prac-

tically the only one by which amalgam can be adapted into steel die cavities so that air cannot be forced around them. The Dental Magazine publishes what it calls "Amalgam Technique in a Nutshell," a technique suitable for amalgams of high tin content only, a kind of amalgam we hope is not commonly used.

The dentist who mixes present day amalgams in his hand only and altogether for less than five minutes and squeezes all possible mercury from the mass before he begins packing and does not tamp each piece is making leaky fillings that discolor the teeth.

## Discussions of Dental Essays

We are in receipt of a copy of the papers presented at the annual meeting of the British Dental Association from our old friend Dr. Fred Mallory, London. He states that the full paper was distributed at the annual meeting in printed form and the essayists just touched the high spots in presentation. The discussion which followed was of some value because all had a chance to prepare something worth while. There is a tendency in America and especially in Canada for the essayist to be above criticism. Usually no one knows what is coming before the presentation is made and no provision is made for discussion, and as a consequence many matters are published as coming from a society that sometimes are not a credit to it. The inexperienced reader of dental literature is often led astray because no one challenged the essayist. The British plan of placing complete copies in the members' hands might bring out what always has been considered the best part of a paper—the discussion.

## The Incidence of Cleft Palate and Hair-lip

An extremely interesting paper on the incidence of congenital clefts of the palate and lip, by J. S. Davis, appears in the "Annals of Surgery" for September, 1924. The paper is a statistical investigation of over 28,000 deliveries in the Johns Hopkins Hospital and Hospital for the Women of Maryland. A total number of twenty-four clefts of the lip and palate were found. They occurred in the negro race, but less frequently than in the white. Environment and social status were apparently of little importance. More than half the clefts were in first children. The percentage of males affected was 70, of females 29. Clefts of the lip on the left side and bilateral clefts were both more common than right-sided clefts. There was no evidence to associate syphilis with the condition. In 25 per cent. of cases there were associated anomalies. The mortality of cleft-palate infants during the first few months is extremely high, being 45 per cent. of the cases. Children with congenital clefts who survive the first year have a reasonably good chance of surviving.

# Another Viewpoint

(Editorial Note.—We quote a paragraph from a letter in the Kamloops "Standard" giving another viewpoint.)

If this present day idiotic madness of relieving physically and mentally fit parents of their obvious duty is persisted in, where will it lead us, and where will it end? The tendency seems to be to pauperize everybody that can be so humiliated.

Once upon a time the people of Kamloops boasted of their climate and prided themselves on their town, its water and light system, its well kept streets and splendid concrete sidewalks, its attractive boulevards, and, its greatest asset of all, its sturdy, prosperous, independent populace. Is that all changed? Can it be that our hardworking citizens, prosperous but not wealthy, have been suddenly replaced by a crew of impoverished, incapable, underfed paupers? If the taxpayer—who has bought or built his own home out of his savings—is to pay for the upkeep of his shiftless neighbor, or it may be thriftless, where will the line be drawn? If you and I must pay for our neighbor's children's dentistry, why stop there? Why not also provide free doctor and medicine, free food and clothing, free water and light, free house and fuel? If we must see to it that our neighbors' children's teeth are kept in order so that they eat properly and escape pyorrhoea and other ills, and pay for it out of our own pockets instead of the parents footing the bill, why not appoint a municipal chiropodist to inspect and keep in order the children's feet so that they may properly run, skip, jump, skate, ski, and all the rest of it, and avoid corns, bunions and in-grown toe-nails? Why not appoint a municipal barber to cut, comb, marcel, curl, frizz and shingle the youngsters' hair at the public expense? Then surely the throats should be provided for, tonsils and adenoids—fearsome sources of infections galore—removed, free, gratis, for nothing (except to the over-burdened taxpayer), to say nothing of goitre!

Editorially the "Standard" makes the following reply to Dr. Wade's letter.

From a monetary point of view such an institution will ultimately prove an economy as the children will make more rapid progress in their work, when the great handicap of unsound teeth is removed. This has been the experience in other places. The improved condition in the children's health has made it possible for a number of the larger cities to dispense with some of the teaching staff owing to the fact that fewer children have had to repeat.

# Malpractice

About January 1st, Mrs. M. consulted Dr. Richardson asking to have an upper lateral artificial crown cemented in place as it had come off a few days previously. The crown had been set several years before. The patient said that without treatment or examination the crown was cemented

in place and a fee of two dollars charged. About two hours after the operation her husband called Dr. Richardson demanding that one dollar be refunded as the charge of two dollars was outrageous. He said he had enquired from another dentist what the charge for setting a crown was. Four days afterwards both husband and wife called at the dentist's office and demanded the return of the two dollars as the crown had come off. This the dentist refused to do and the following day, a lawyer wrote the dentist demanding a hundred dollars, $98 for suffering and two dollars to pay the lawyer for writing the letter. This proposition was not acceptable to the dentist either.

A charge of malpractice was laid against the dentist. In court Mrs. M., with the help of her lawyer, tried to rest their case on the fact that the crown was set without treatment and therefore caused much pain and when it was removed pus flowed from the root canal. It was held that pus could not have formed in so short a time, unless it had been present when the crown was set. The complainant called Dr. Speers whom she consulted about four days after the crown came off. He found the root canal open clear through the apex and likely infected. He advised the removal of the root, which he did at the next appointment.

Dr. Richardson when called said the patient consulted him asking to have a crown cemented in place. He demurred because it was so poorly adapted to the root that there was no chance of its staying in place. He advised the removal of the root; this the patient did not wish, because it would cost too much. After some discussion the dentist agreed to cement the crown in place, but warning her that it was only a temporary operation and might not last but a few days.

Dr. Webster was called and stated that pus might form in twenty-four to forty-eight hours and that the advice given by Dr. Richardson was good practise. The judge dismissed the case, each paying their own costs.

(Note).—It is to be noted that there was a very wide variation between the patient's and dentist's opinion of what occurred during the consultation. No dentist is justified in doing such an operation even temporarily for strangers unless there is a signed statement of exoneration.

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## Notes

The dentists of Kamloops have decided not to take part in any clinic for the school children owing to so much discussion.

One Mrs. McCann claims damages in the County Court, Toronto, from an exodontist for not extracting all of her teeth. What next?

Dr. J. C. Nichol, of Montreal, died in Montreal, March 16th, 1925. He was born in Perth, Ontario, seventy-six years ago. He lived practically his whole life in Montreal.

Dr. Scott Hamilton, Edmonton, addressed the Edmonton Dental Society on Trench Mouth, illustrating his lecture from severe cases met with in hospital practice.

Dr. C. W. Sutherland, formerly of Saskatoon, has taken over the practice of the late N. B. Forrester.

Dr. Davidson's license to practice dentistry in Ontario has been suspended pending his undertaking that he will not repeat unprofessional advertising. The doctor has appealed against the Board's action.

The vote now being taken re University relation in Ontario is markedly in favor of the University teaching dentistry as a faculty.

Dr. J. G. O'Neil has begun practice in Windsor, Ontario, after spending many years in Fort William.

The appeal of Dr. F. G. Law against the decision of Justice Kelly for damages of $2,300 was dismissed.

Dr. W. G. Thompson, supervisor of dental clinics, Hamilton, says there are not enough dental clinics.

Dentists must not forget that they owe a duty to the next meeting of the Canadian Dental Association in Halifax, 1926.

Dr. G. K. Thompson delivered two addresses recently, one in St. John, N.B., and the other in Moncton.

Dr. James Zimmerman, Calgary, gave an illustrated lecture on Dentistry to Lodge No. 816, I.O.B.B., March 18, 1925.

Dr. Harry S. Thompson, secretary of the Canadian Dental Hygiene Council, is visiting Western Canada.

Dr. H. A. McCreae, Sherbrooke, died suddenly March 21st, 1925.

The Dental Society of Western Canada is to be re-organized in Winnipeg at their Convention to be held May 12th to 15th.

Dr. B. Molins of Detroit and his two sons were arrested in Los Angeles, Calif., Feb. 12, for conspiracy to defraud an insurance company on a fake diamond burglary.

$5,000 has been added to the public health service in Hamilton to establish two dental clinics, assistants, etc.

The graduating class in Dentistry of McGill University held a banquet at the Windsor Hotel, Montreal, at which Sir Arthur Currie was the chief speaker. Dean Thornton of McGill, and Dean Dubeau of Montreal, also spoke.

Dr. G. K. Thomson has been appointed Dean of the Dental Faculty of Dalhousie University, to succeed Dr. F. N. Ryan, deceased. Dr. Thomson is president of the Canadian Dental Association, a Fellow of the American College of Dentists, and the representative of the Province of Nova Scotia in the Dominion Dental Council. The Dominion Dental Journal extends its congratulations.

The "London Advertiser," Ontario, takes rather a straight blow at the Dental Board of Ontario, who cancelled the license of Dr. Davidson for telling the public through the newspapers that he would during a period of ten days make artificial teeth for a certain price. It says they do not seem to object to spreading great signs on windows and walls, but when it comes to putting the same information in newspapers it is objected to. We rather doubt the accuracy of the statement that the only objection is its appearance in the press.

# Dental Clinic for the Kiddies

The Southampton, Ontario, Social Service Club, has succeeding in establishing a dental clinic for the children of Southampton Public School. In a recent survey by school medical officers it was discovered that about 90 per cent of the pupils of Southampton Public School were suffering from defective teeth.

The discussion in Kamloops, B.C., of the municipality providing dental and medical services for the public school children has brought out rather prominently the fact that some people are opposed to caring for the children of others. It is too late to object to caring for them when they have already reached school age. It is illogical and inhuman to allow them to suffer or leave them to incompetency, having been allowed to be born. All persons of mental or physical disabilities sufficient to produce class D offspring should be sterilized, then there would be few needing public aid.

According to careful investigations it will be only a few decades until the United States, with its present rate of population increase, will reach the point of saturation. That is, the country will not be capable of supporting any more. It is also recognized that the whole world will have reached the saturation point in less than two centuries. If this be true, why should the people of Canada be so anxious to get population when it is only a matter of a few generations until it will be overstocked, and besides there are only a certain amount of natural resources and the greater the number among whom these are to be divided, the less there will be for those to come. If we wish to leave a great heritage to our progeny let us not divide it among too many and especially those of poor physical and mental calibre who will have to be kept.

Too often we hear from public health organizations the statement that the span of life has been enlarged or lengthened by ten or fifteen years. This is only true in regard to the whole population. As a matter of fact those who have reached forty years or more are not likely to live so long now as they would have fifty years ago. The span of life for the middle aged is less now than ever before, but the span of life for the child is much greater. The departments of public health have increased the chances of a baby living to middle life and, when it is all averaged up, the whole span of life is increased.

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# Obituary

Dr. Thomas Hamilton Husband died after a short illness in Hamilton, Ontario, February 19th, 1925. Dr. Husband was born near Milton, Ontario, sixty-eight years ago. He graduated from the Royal College of Dental Surgeons, 1878, and soon afterwards established himself in practice in Hamilton with his cousin, Dr. R. J. Husband. He was highly esteemed in his profession, and gave a life of service to the Methodist Church, occupying positions of trust and confidence in church, fraternity, profession and state. His wife and one son are left to mourn his death.

Dominion
Dental Journal

Vol. XXXVII TORONTO, MAY, 1925 No. 5

# ORIGINAL COMMUNICATIONS

## Operative Dentistry in Relation to the Prevention of Dental Caries

*H. A. Ross, D.D.S., Toronto.*

Read before the Nineteen Club, Toronto.

If we are to consider any phase of the prevention of dental caries, we must first have a clear understanding of the cause of this dreaded disease. Of the various theories that have been advanced concerning the etiology of caries, that of Dr. Miller seems to be the one accepted by the majority of our profession as being nearest the truth. According to this theory, the acids which are formed by the action of bacteria on carbo-hydrate foods, attack the lime salts of the enamel and dentine and progressive disintegration of the tooth structure follows. Usually the first attacks are made in location on the tooth where conditions are favorable to acid production as in fissures, interproximal spaces or where gelatinous plaques have formed on smooth surfaces.

This theory is supported by much clinical evidence. Decreasing the carbohydrate element of the food means nearly always a decrease in the number of carious cavities. Changing an environment favorable to bacterial growth to one that is unfavorable generally raises the immunity index. Perhaps the most convincing evidence to support the Miller Theory is to be found in the recent findings of four English investigators, Drs. J. MacIntosh, W. Warwick, and J. and P. Lazarus-Barlow.

*"The investigations of these men show:

(1) The constant presence of a definite type of bacillus in caries.

(2) That this bacillus is capable of forming a high degree of acidity by the fermentation of carbohydrates.

(3) That teeth left in contact with cultures over a prolonged period show changes almost identical with natural caries, namely: erosion of enamel and penetration of the dentinal tubuli, with the formation of liquefaction foci."

* From "A Review of the Present Status of Dental Practice" by Thos. Cowling, B.A., D.D.S., Royal College of Dental Surgeons, Toronto, Can. Dominion Dental Journal, 1924, XXXVI, p. 296.

"Another theory as to the causative factors involved in dental caries, claims that endocrine derangement causes bones to either harden or to soften. This theory emphasizes the importance of calcium in maintaining healthy tooth conditions. It is pointed out that enamel in health progressively hardens as life proceeds, due to the laying down of calcium from the body-store, held by the endocrine apparatus, which is also the fixer of the lime salts in the teeth. When the endocrine apparatus is thrown out of balance by calcium starvation, the reserve calcium is used up and the fixation of lime salts in the teeth is interfered with. Calcium starvation leads to deficiency of calcium in the saliva, causing a gradual diminution of alkalinity, hence susceptibility to caries." It is the opinion of the writer that although diet and certain systemic conditions have very likely an influence on the susceptibility to and rate of progress of dental caries, still the immediate cause of the disease is bacterial action.

The prevention of dental caries is then largely the prevention of bacterial growth on the surfaces of the teeth and all procedures in operative dentistry that tend to create conditions unfavorable to the growth of bacteria would be measures that would have the effect of preventing dental caries. It is impossible to permanently sterilize the oral cavity of a living person but it is possible to create and maintain conditions that are unfavorable to the fermentation of carbohydrate food. If we do no more than remove the dental plaques as they form or even periodically and eliminate where possible those defects of tooth and restoration where bacterial action may proceed undisturbed, we shall find that the occurrence of dental caries will have been lessened very appreciably.

I shall now proceed to a more detailed discussion of operative procedures as they relate to bacterial activity and propose to group my remarks under the following headings:

I. Prophylaxis.
II. Cavity Preparation.
III. Choice of Filling Materials.
IV. Manipulation of Filling Materials.
V. Anatomy of Restoration Based on the Physiology of Occlusion.
VI. Minor Surface Defects That Have Not Reached the Cavity Stage.

## I. Prophylaxis.

The dental operator should carefully remove all bacterial plaques, deposits and stains from the teeth and carefully polish all the exposed surfaces. Areas not ordinarily taken care of by the cleansing forces of the mouth should receive special attention and their location should be pointed out to the patient. These may be shown by use of a disclosing solution or by ordinary three per cent. iodine solution. No acids that will attack tooth structure or grit that is coarse enough to roughen the tooth surface should be used as cleaning agents. The aim of the dentist should be to leave the tooth with clean smooth surfaces. Instruction should be given the patient in dental hygiene, emphasis being placed on the cleansing of those areas where plaques are most likely to form. The aim of the patient should be to maintain these conditions which have been established by the dentist.

## II. Cavity Preparation.

This is a large subject and it will be necessary to consider it step by step. (a) Outline Form should always be laid in relatively immense areas —either under the free margin of the gum or in areas that can be cleaned by the moving tissues of the mouth, the excursions of the food or by the

tooth brush. The outline should not be laid in areas subjected to great stress if it can be avoided. Otherwise either the edge of the filling or the enamel wall of the tooth may fracture and a crevice develop.

(b) Resistance Form. Flat seats placed about at right angles to the force of mastication are conducive to permanence of the restoration. Fillings are not so likely to move on their foundations and develop imperfect joints at the cavo surface angles.

(c) Management of Cavo-surface Angle. This, to my mind, is one of the most important steps in cavity preparation and should be given most careful consideration for this is one of three big factors on which we must depend for the character and permanence of the joint between filling and tooth—the other two being choice of filling material and manipulation and insertion. Proper management of cavo-surface angle depends on various factors:

(1) Histology of enamel. That part of the cavity wall involving the enamel must be cut as nearly as it is possible to determine in the direction of the enamel rods. The only variation from this direction, permissible, is a direction in which the rods appearing at the surface are all full length and this only when the nature of the filling material will allow. Never under any consideration leave short undermined rods at the surface.

(2) Physical Properties of Enamel. Even though one has cut along the direction of the rods he may find that the enamel wall at some part in the cavity outline may be weak because of the friable nature of enamel or the whole enamel wall may have no support on denture. Such walls should be tested by chisel under hand pressure and if found weak should be removed and replaced with a filling material which is stronger than enamel. In this connection I wish to call attention to the evils of leaving weak enamel walls standing to provide retention where it would be better for all concerned if such weak walls were removed and retention gained in some other part of the cavity. Enamel walls that must bear the malleting force used in gold foil insertion, must be especially strong.

(3) Physical Properties of Filling Materials. For those materials that have poor edge strength as synthetic porcelain, amalgam, baked porcelain and castporcelain, one must do very little bevelling. The cavo surface angle should be managed in such a way that there may be a balance between the edge strength of the filling material and that of the enamel wall surrounding the cavity. To secure this balance one must have a working knowledge of the strength of enamel and the various filling materials. For those materials having ductile properties, for which reason the thin edges of fillings made from them may be moulded or adapted when cold, the cavo surface angle should be bevelled. This will enable the operator to secure a very close adaptation of the restoration to the enamel wall and hence make possible a more perfect joint. One should guard against having the edges of a gold inlay too thin when they are subjected to stress from the opposing teeth. Otherwise there may be a curling up of the edge of the inlay and the consequent development of a faulty joint—an ideal place for recurrent caries to begin.

(d) Toilet and Medication of the Cavity. Operator must see that all infected dentine is removed from the cavity. If it seems desirable for the sake of pulp conservation to leave some discolored and possibly infected dentine, the operator should take the precaution of sterilizing such tooth structure with either silver nitrate as an immediate agent or with phenol

which should be sealed in for a day or two. The whole cavity should be moistened with some antiseptic solution as acetone chloroform or modified alcohol and then dried with warm air. This last procedure will remove any traces of saliva or substances of an oily nature that may have found their way into the cavity.

### III. Choice of Filling Materials.

The operator who is concerned about the prevention of dental caries will choose his filling materials according to (a) their permanence and (b) their therapeutic value. (a) Where the bite is heavy, the friable materials should not be used unless the cavity can be so prepared that the restoration will have no thin edges to break away. In certain cavities, this is impossible, e.g., in proximo-occlusal cavities in bicuspids and molars have long sharp cusps. In such case permanence of the joint demands that the cast gold inlay be used in preference to amalgam. Silicate should not be used in cavities involving the incisal or occlusal surface unless conditions are such that the restoration will not be subjected to any great stress. Nor should it be used in mouths in which it has a tendency to disintegrate or dissolve. (b) Certain filling materials have marked therapeutic value. Copper amalgam and the copper cements because of their germicidal qualities make ideal filling materials where it has been impossible to remove all the decayed tooth structure, and in mouths susceptible to caries. Because of their adhesive qualities, cements seem to make better sealings than do metals alone, gold foil possibly excepted.

### IV. Manipulation of Filling Materials.

In the manipulation and insertion of filling materials, the aim of the operator should be to secure a perfect sealing of a cavity against air, moisture or bacteria and such a sealing as will remain permanent during the time it gives service. A perfect joint between filling material and tooth must be our aim as it is largely on the character and permanence of this joint the patient must depend for his expected freedom from recurrent caries. The manufacturers of the various filling materials have done much to inform the profession concerning the working qualities and proper manipulation of their products but each dentist must develop for himself the skill of handling these materials to produce the best results. Just a word or two about some of the commonly used materials.

Amalgam. The factors essential for success with this material are (a) high grade alloy and mercury, (b) proper mixing, (c) plasticity so that materials can be well packed into undercuts and angles, (d) suitably shaped pluggers to carry the material to place, (e) tamping, (f) getting rid of the excess mercury in the cavity at time of packing and not before inserting.

Silicate. Many silicate restorations are leaky immediately after insertion as the operator carelessly packs away from some margin in his zeal to secure adaptation at some other margin of the cavity. Such imperfect joints often occur at the gingival margin of gingival cavities, especially if such margin be very near the gum margin, where it is hard to see, Also on the lingual of class III cavities if no matrix strip has been used.

Gold Foil. Very little improvement of the joint can be made by burnishing. To secure good adaptation the foil must be condensed against the margin at the time of insertion. This is true with regard to all plastic filling materials.

Gold Inlay. After having constructed a perfectly fitting inlay, one should be extremely careful in setting it in place, so that there will be no cement line at the cavo surface angle to dissolve away. The cement for setting should be mixed thin and after the inlay is driven home by mallet force, the margins should be burnished to secure final adaptation and to aid in getting rid of any cement that might be in the joint.

All fillings should be inserted under dry conditions and if necessary the rubber dam must be used.

### V. Anatomy of Restoration Based on Physiology of Occlusion

The restoration should be carved up to anatomical form, special attention being paid to those anatomical parts which function as cleansing forces for the masticating apparatus. Proximal marginal ridges and good contact points to keep the food from lodging in the interproximal spaces, gingival ridges and cinguli to protect the free margin of the gums and lessen the danger of decay at the gingival third of the tooth, rounded contours where they are needed to provide easily cleaned surfaces. Attention to this phase of the work will make dental hygiene easier for the patient. As the teeth wear down, restorations may require grinding to re-establish proper occlusion. This is often necessary to prevent fillings from being broken. Sometimes the teeth themselves require grinding, e.g. the sharp chisel edges which often develop on the lingual of the lower anteriors should be ground off to prevent extensive fracture and subsequent caries.

### Minor Surface Defects.

In concluding mention may be made of those slight surface defects which if left untouched may develop into cavities. Slightly decalcified areas may be rubbed with calcium phosphate and orangewood stick to arrest the decalcification process. Very slight defects at the gingival or on smooth surfaces may be ground out with a stone and the surface polished. Sometimes an application of 25% silver nitrate will prevent the formation of a carious cavity from one of these very small surface defects.

# A Good Form of Recreation

J. G. O'Neil, D.D.S., Windsor, Ont.

Recreation, no matter what form it may take, is a very important item in the professional man's life. Nothing is more important to the Dentist than the form of exercise or deviations that he employs to get his mind and body away from his work. Dentistry is the most confining of all the professions, and we know of none more tedious to the muscles, nerves and brain. We must relax as much as we can or else our lives will be a short and none too merry one. We must constantly remember that all of us owe a strict duty to society in maintaining as much bodily health as is within our power, so that we may better serve those whom we are called upon to minister to and give of the best that we have. This can only be done by maintaining a sound body, and with it goes a sound mind. Some form of physical exercise should be indulged in by every member of the profession.

Recreation in the form of physical exercise cannot be standardized, nor can any one definite form be selected. What might be admirably suited for one would be positively fatal for another. A strenuous game of hockey at the age of forty-five would do one more harm than good. Our physical exercise should be selected with judgment and common sense.

The field is large and the trail is wide open in the matter of selecting our games. The younger men of the professions, who have just graduated from college, can take part in the more strenuous games of hockey, football and tennis; but it is not they who need the physical exercise so much as the men who have been plugging along for some years, and in the early part of the day commence to feel weary. The recreation for these men should not be of the strenuous type.

We know some men of the profession who never miss their daily horseback ride, and those who grow beautiful flowers, and others who occasionally are stung when their bees swarm. These are all admirable avocations and afford those so disposed some recreation, and as much pleasure as the little boy at his first circus. There are those amongst us who love to get in the woods in the autumn and shoot the odd partridge, and wander down the clear streams and play with the speckled trout; and occasionally hook one. We know a man of our profession who lives all through the year in pleasurable anticipation for the time that he can hie away to the great forests of the north and the west in quest of Caribou. And when he returns with his spoils he dreams of the woods and the game he knows so much about until another year rolls round. Many of our men shoot an occasional moose and quite a few have venison from the deer that they have shot.

When that season of the year comes when the small and big game are flirting with death from some hunter's gun the woods with their variegated colors of foliage are a glorious treat for the tired eyes. The apprehension of either the neophyte or the experienced hunter in the woods

is an excellent stimulant for the tired body and nerves; but what a glorious sensation when you first spy your prey and are successful in carrying out your objective. Then is the time when the heart beats firmly and quickly rushes forth abundance of rich red blood in order that the tired and broken down tissues may be renewed.

But have you ever stood up on a tee and from a high elevation your eye first fell upon the wonderful landscape for many miles round, and soon that optic of yours took in a beautiful green sward, banked on either side by foliage of every description, and you gloried in the wonder and prodigality of nature, and suddenly our big perspective was reduced to a very tiny one, and it was some lettering on a small white box filled with sand: "Hole No. 2-575 yards-Par. 5," and you picked out the sand and teed up your favorite ball, and before you took your stance you looked

There is a brotherhood of the green swards, wooded foliage and blue skies.
—*Courtesy Sports Goods Journal of Canada.*

down the course and saw a nice little stream about one hundred and seventy-five yards away, and far beyond a red flag flapping in the gentle breeze, and disregarding all the things that Hagen, Evans and Barnes have said you carry your club through the air and send it straight and true and low and it carries well beyond the water hazard and continues running on toward the flag, well! if you have not, then you have missed one of the finest thrills known to the sons of Adam and the daughters of Eve.

Golf is one of the sanest forms of exercise for the men of the dental profession. One can play a solo or play it in flocks. It can be made as strenuous or as mild as one likes. One may weed the garden for hours

and get intensive exercise; but the mental and physical reaction afterwards is like the man suffering with a fractured limb. One may go out on a golf course and be tired when he starts and walk five miles and come to the nineteenth hole and have his shower and feel like a shooting star.

Only a few months ago one of our prominent members of the profession was lecturing to the students of the school of dentistry in Toronto, and on this special occasion he got on the topic of the comparatively short lives that the men of our profession live. At this point a fire of enthusiasm struck him and he exclaimed: "Boys, when my time comes to pass out of this big picture I hope I shall be standing on a tee and that I have just made a drive of four hundred yards, and then I shall go out very happily. What an ideal way to close the big show! Years ago when this same man was first taken out to one of the clubs by a friend and given a driver and was told to hit it, but not to try and kill it, and he never made a better drive since, and from that day to this:

He is seldom home for supper, if he does come he is late;
The kitchen floor needs painting, but the kitchen floor must wait.
The screens are in the attic and the storm door should come off,
But Father's only rooming here, now that he's playing golf.
He's ceased to dig the garden, and he's packed the tools away;
He says the maid can plant the flowers we want some day.
At those who toil for exercise he's started in to scoff,
The stylish way to get it, Father says is playing golf.
He used to call men foolish when they raved about the links,
But since he's been converted, it's a splendid game he thinks.
He is out there every Sunday and each afternoon he's off;
Ma's a widow and we're orphans since he's started playing golf.

Golf is a science, the study of a lifetime, in which you may exhaust yourself, but never your subject. It is a contest, a melee calling for courage, skill, strategy and self control. It is a test of temper, a trial of honor, a revelation of character, it affords a chance to play the man and act the gentleman. It means going into God's out-of-doors, keeping close to nature, fresh air, exercise, a sweeping away of the mental cobwebs, genuine recreation of the tired tissues. It is a cure for care and an antidote for worry. It includes companionship with friends, social intercourse, opportunities of courtesy, kindliness, and generosity to an opponent. It promotes not only physical health but also moral force.

There is a brotherhood of the green swards, wooded foliage and blue skies. Its meetings are being held from early spring until late autumn. It is a unique craft whose members dedicate themselves to getting closer to nature for exercise, and in so doing they love nature the more. And every member is a life enthusiast. For "once" to hit a golf ball is always to be a follower of the ancient and royal game.

To this brotherhood all members of the dental profession should belong. And as we learn to know golf better, and dissipate our troubles and worries in long days and still twilights in the open on the course, we shall be better dentists and better citizens.

To all of you then, who, with your bag full of niblicks, brassies, and spoons, who may "go through us" on the long rolling green swards, a greeting. Here's to the golfers trail, and a good shower and whatever you may desire ahead; to sunrise and sunset and the afterglow, to air and exercise and a night's sleep well earned. And here's to you and us: May our fairways cross and our hazards never be too difficult to negotiate.

# Copper Amalgam as a Root Filling

F. C. Husband, D.D.S., Toronto

Dr. Daniel Squire, Dean of the dental department of the University of Buffalo, makes the following statement in regard to copper amalgam as a root filling: "Present methods of filling the root canals of pulpless teeth fail to sterilize the whole of the root canal. It is never known how much of this canal has been reached and the infections frequently resulting have caused eye trouble, rheumatism, heart disease and other ailments.

"The blocking of the infection from the root canals has been the most baffling problem dentistry has faced in recent years. The germicidal value of copper has long been known; the difficulty is in getting it to the desired place. It is in the millions of minute tubulae of the dentine that the disastrous poison forms and if some method has been found of reaching these, the discovery is of tremendous importance."

"Copper, though it will turn dark, will be much less likely to stain than the Percy Howe method of precipitating silver from an ammoniacal solution of silver nitrate with formalin."

Dr. Squire's four points are:

1. Present methods of filling root canals fail to sterilize.
2. Present methods fail to block the canal against reinfection, or infection from without.
3. The difficulty of getting copper amalgam to the desired place is mentioned.
4. There is a possibility of staining from its use.

We believe that with the use of copper amalgam following the technique outlined below that:

1. Root canals can be rendered sterile.
2. That root canals so filled will remain sterile.
3. That they can be filled better than with gutta percha.
4. That there will be no staining of the crown of the tooth when the technique is adhered to.

Clinical evidence, based on Fraser's laboratory findings, seems to show conclusively that root canals thus filled are sterile, do not become reinfected and permit the periapical tissues to become regenerated.

Dr. Squire recognizes what many of us have long recognized, that present methods fail to prevent the reinfection of the root canal after the most careful medication is completed.

Gutta percha, now in common use, cannot be satisfactory for two reasons:

1. Because of the difficulty of getting absolute adaptation to the wall of the canal at the apical end, due to a certain elasticity in the material, and a changing in form under varying temperatures.

2. Because the material itself is an unsatisfactory barrier to the inroads of bacteria—assuming that we had succeeded in getting a perfect adaptation. At best, gutta percha is inert and the chances of absolutely

mechanically blocking and keeping blocked the apical opening of the canal with it are so uncertain that its use must be regarded as a precarious technique in root canal therapy.

Copper amalgam, on the other hand, under tamping, is readily adaptable and can be made air tight, as those who have tried Dr. Harper's technique, know; and it has, what is supremely important, that permanent germicidal quality established by Fraser as reported in the January issue (1925) of The Dominion Dental Journal.

As has been cited from Marshall's text book of operative dentistry, the dentin, in which copper amalgam has been placed, is found to be not only sterile, but to have antiseptic properties. Thus the dentin of the root is rendered not only sterile but has itself the antiseptic and sterilizing influence of the copper. This sterilizing influence has been demonstrated by Fraser to extend some 10 to 22 m.m. in all directions from the block of copper amalgam.

It may reasonably be assumed, then, that this influence extends some distance into the periapical tissues, rendering them sterile and immune to micro-organic attack.

Further, clinical evidence shows that the material is non-irritating and quite compatible to the tissues. Thus, while rendering sterile, it does not cause a breaking down of vital tissue.

The minute tubulae, also, and lateral canals, coming under such influence, are kept permanently sterile by being saturated with copper salts.

The penetration of these salts may be demonstrated by immersing the root of an extracted tooth in broth, keeping the crown out of the broth. Fill the pulp chamber with copper amalgam and in twenty-four hours the whole root canal tissue will be dark to the apical end—even tissue adhering to the end of the root will be stained.

When one realizes the foregoing, the clinical results obtained and the pictures shown it may be readily understood and appreciated.

We believe, therefore, that root canals, after thorough cleansing, preparation and treatment, may be filled, following the technique outlined, with every confidence of successful results.

Should treatment be carried on till all vestige of the "apical area" disappears? Clinical evidence seems to indicate that thorough mechanical cleansing and a few dressings—say of beechwood creosote—followed by early filling, as indicated, are sufficient. Copper amalgam, itself, is probably a more efficient germicide than any of the medicinal agents generally used, and permeates the surrounding dentine and other tissues better than our drugs. This action being permanent and non-irritating meets all the requirements of further treatment, and nature must be relied on to do the regenerating of the periapical tissues.

Several cases have been reported to, as well as experienced by, the writer of persisting apical "soreness" in teeth under bland dressings, which has disappeared in a few hours after the insertion of a permanent copper amalgam root filling or fillings.

## TECHNIQUE OF ROOT CANAL FILLING

Prepare canal as for Coolidge Sectional Method. Reasonable enlargement of canal is necessary with chuck bore or shoulder at apical end. This shoulder preparation, as has been pointed out in connection with the Coolidge method for Gutta Percha, enables the operator to more definitely place the first section of the filling. Reamers in the engine should be used

with the greatest care, if at all—hand reamers are much safer. Choose a root canal plugger that will pass to the end of the canal without binding.

Dress off the end of this plugger with a cuttlefish disk in the engine so that it is flat and at right angles to the shaft of the plugger.

Bend a shoulder on the plugger so that the shoulder will rest on a given or chosen edge of the cavity margin when the point of the plugger is at the end of the canal, as is made out by the X-ray of the root with a diagnostic wire in place. This is your guide that the plugger is reaching to the end of the canal, and no further.

Mix the copper amalgam quite soft.

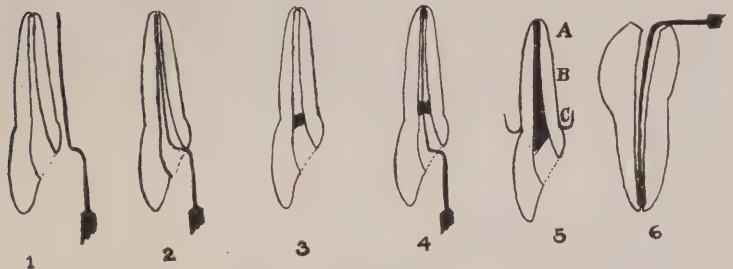



*Figure 1. Plugger with shoulder to indicate length of canal.*

*Figure 2. Plugger in canal with shoulder engaging cavity margin when end of plugger is at root end.*

*Figure 3. Copper amalgam at mouth of canal.*

*Figure 4. Copper amalgam built up at apical end of root. Note: Shoulder of plugger at cavity margin, indicating distance copper amalgam has been built up at apical end of canal.*

*Figure 5. Sectional view of finished filling: A, Copper Amalgam; B, Gutta Percha point imbedded in oxychlorid of zinc cement; C, Oxychlorid of zinc cement. Note: This portion of canal extends about 4 m.m. rootwise of the gum margin and has been cleared of all traces of copper amalgam with a bur in the engine.*

*Figure 6. Shows plugger bent to engage cavity margin for lower bicuspids or other teeth far back in the mouth.*

Carry a small piece to the mouth of the canal with pliers or amalgam carrier. Gently lead some of it into the mouth of the canal about 2 or 3 mm. in depth with suitable plugger, but avoid any suggestion of packing. Take plugger already selected with shoulder as above described, and holding same with a very delicate hold between the thumb and finger, pass it through the amalgam and with one continued motion right to the end of canal—or until the shoulder engages the cavity margin at the point selected. Repeat this process several times carefully, till you observe from the shoulder on the plugger that you have built up the amalgam about 1 mm. at the apical end of the canal. Gently "tamp," to use Dr. W. E. Harper's term, a few times to adapt the amalgam and condense it. Repeat this process, building up 1 mm. at a time till the desired amount (3-5 mm.) has been inserted.

Remove surplus amalgam with barbed broach. The filling of the rest of the canal is a combination of cement and gutta percha.

Having chosen a suitable gutta percha point—as large a one as possible—fill the rest of the canal full of a rather soft mix of oxychlorid of zinc cement and press gutta percha point through it to the full depth.

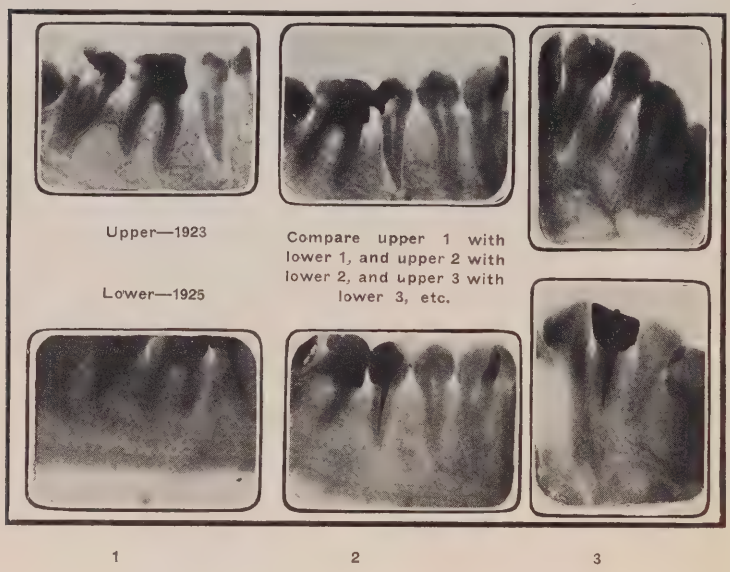
Wipe off surplus with hot ball burnisher and with suitable plugger gently press warmed gutta percha into the cement.

This will probably bring to the surface globules of mercury which have escaped the barbed broach. These should be removed from the tooth.

In order to prevent discoloration of the crown or visible neck of the tooth, the root filling should be removed to a safe depth (4 or 5 mm.) root wise of the gum margin with a bur in the engine, and the walls of this portion of the canal made perfectly clean. Replace portion of root filling thus removed with oxychlorid of zinc cement.

The placing of the Gutta Percha cone in a portion of the canal, as described, makes it possible to gain easy access to the canal in case it is desired to insert a dowel as in the construction of a crown.

Radiographs should be taken immediately after the copper amalgam is inserted and before the cement and Gutta Percha are inserted to check up the work and to satisfy the operator that it has been placed where he wished it to be. In the event that he has failed to get it to the end of the canal, it can easily be removed because it is very slow in setting—taking hours to harden.




Copper amalgam can be successfully placed in any root canal where Gutta Percha can be placed and has a decided advantage over it because of its proven germicidal qualities, over a seemingly limitless period. Should any be pressed beyond the apical opening, it will be found to be non-irritating except in a mechanical way, on account of pressure. This is only temporary, however.

# Sweetman vs. Law

A Foreign Substance in the Region of the Internal Petrygoid Muscle on the Right Side

*History*

Miss Sweetman, a rather slight girl twenty-one years old, consulted Dr. W. G. Law, a practising dentist in Toronto, to have two lower third molars examined for treatment. The dentist found the teeth badly decayed and the patient said they had been paining. It was there and then agreed that both teeth should be extracted and that a local anaesthetic should be used. The patient described the operation about as follows. The doctor took from his cabinet a hypodermic syringe and injected into each side of each tooth and then injected into the back part of her cheek and while this latter operation was going on he reached to his cabinet and got a pair of tweezers and removed something from the region where the injection was made and dropped it into the waste basket. This was on the right side. After waiting for some little while both teeth were removed without pain. Miss Laura Love, Dr. Law's assistant, was present in the office but may not have been present during the actual operating. The patient said there was much hemorrhage but not sufficient to cause Dr. Law to pack the wound. The patient says she began to feel severe pain about two hours after the extraction, especially on the right side. The pain became so severe after a few days that she called at Dr. Law's office for relief. She also found that she could not open her jaws freely. Dr. Law said there was contraction of the muscles and painted the gums opposite the region of extraction with iodine and advised the patient to massage her face and use hot applications. There is no evidence that this treatment was carried out. In about a week or more the patient visited Dr. Law's office and received the same treatment and the same advice as before. A week or so later she visited Dr. Law's office with the same treatment and the same advice, meanwhile she said she had much pain and limitation of the movement of the jaws. There was no comment as to how local applications could be made to the seat of operation with marked tresmus present, nor was there any evidence given as to signs of inflammation. The total period of these four treatments would seem to be about six weeks though the patient thought it was much longer, and the dentist, though he had no records in his books outside of the extraction, thought six weeks was the limit of time. It was agreed that the next visit, possibly the fifth, was on the 5th of June, 1922.

At this point there was a definite divergence between the history given by the patient and that given by the dentist. There is some evidence that the patient was aiming not to be perfectly frank with Dr. Law, because she said Dr. Harrison, their family doctor, was visiting her mother on the morning of the 5th of June, and examined the patient's mouth and also noted her failing health. After taking the history he advised having X-ray pictures made. She went the afternoon of the same day to Dr. Law's office and by appointment met a friend of hers, Mr. Pickles, there. Mr. Pickles said they had made the appointment the day before to first go to Dr. Law's office and to go from there to the General Hospital for an

X-ray. He evidently knew about having an X-ray picture before Dr. Harrison was consulted or before he advised having one. The significance of this bit of history becomes apparent when there appeared to be a difference of opinion as to what occurred in Dr. Law's office. Mr. Pickles and Miss Sweetman both have clear recollections of Dr. Law most emphatically advising against having an X-ray, while on the other hand Dr. Law says he advised having an X-ray made and returning to him. Miss Sweetman also said he advised the same treatment as before.

On the 5th of June pictures were made at the General Hospital and examined by Dr. Harrison and Dr. Richards the next day. These pictures showed evidence of two small foreign bodies apparently the size of an ordinary hypodermic needle and about two and three fifths of an inch long respectively. On the 7th of June another set of plates were made and later films were made so as to determine if the foreign bodies were outside of the superior maxillary bone. It was determined that the foreign bodies, whatever they were, were situated posterior to and above the last molar tooth in the upper jaw in the region of the internal pterygoid muscle if not actually within it.

Dr. Frank Scott, a surgeon was now called into the conference and an operation was thought wise in view of the pain and tresmus. On June 12th the patient was given a general anaesthetic and after three hours of effort nothing was found. The hunt was given up lest greater damage might be done than that caused by the presence of the foreign body. An attempt was made to operate under the fleuroscope without any results. After a week or so the patient was discharged from the hospital still suffering from tresmus and pain. At intervals she visited the hospital to have massage treatments which she said increased her ability to open her jaws. On June 17th another set of pictures was taken which showed the foreign substances in a somewhat different position to each other but in the same plane as before. Pictures taken on December 4th showed that no movement had taken place from June 17th to December 4th.

Dr. Harrison in his statement to the court agreed in all essential particulars with that of the patient. The treatment following the operation was essentially the same as that recommended by Dr. Law except that he added passive movement of the jaw so as to free the muscles. The tresmus was severe following the operation but as time went on it gradually got better until at the present time she complains only of pain when chewing meat. The tresmus is said to return if the massage treatments are discontinued. Dr. Harrison said he had no experience in dental operations but he fully described what in his opinion had happened. He said the dentist had injected the anaesthetic into the tissues in the neighborhood of the entrance of the nerve into the mandibular canal and while doing so broke the needle of the hypodermic leaving it in the tissues and by the normal movement of the muscles the needle moved backward and upward as it now is an inch and a half from the point of entrance. He described minutely the location of the needles in the phyrogoid muscle and how their presence had caused much pain and contraction of the muscles. In his opinion the extraction of the third molars had little to do with the tresmus. Dr. Young who had at one time been the family physician, gave evidence as to the usual good health of the patient and now pointed to her loss of weight and anaemic appearance. He also gave it as his opinion that foreign bodies in the human tissues moved as time goes on. Not having any

experience in dental operations and especially in deep mandibular injections for block anaesthesia he would accept the dentist's opinions on such matters.

Dr. Frank Scott, the surgeon who attempted the removal of the foreign body, described in detail the precautions and preparations for the operation. He said his excuse for operation was the known presence of a foreign body in the tissues, the pain and tresmus from which the patient was suffering. In his opinion a foreign body should be removed if at all possible because it would always be a possible source of trouble if not at once. He explained just where the supposed needle was located and where the X-ray picture indicated it, but when he cut down upon the tissues it was not to be found, although they had searched for three hours. He prescribed treatment while the patient was in the hospital and then left her to the family physician. Dr. Scott did not believe that foreign bodies moved in the tissues as is so often stated in medical literature. He believed these needles are now where they were originally placed.

Dr. Richards who made the X-ray plates and assisted at the operation told of his experience and his help in attempting to locate these foreign bodies. He described to the court as accurately as he could their precise position. His opinion was that foreign bodies did not move in the tissues of the body.

The first witness for the defence was Dr. Law, the defendant. He said he remembered quite distinctly having operated for Miss Sweetman and his records showed that she had two lower third molars extracted on the 19th of January, 1922, and that he had used block anaesthesia. It appears that Miss Sweetman had been a patient of Dr. Law's for many years and that at least once or perhaps twice she had been sent to Dr. Paul to have teeth extracted under a general anaesthetic, because he did not administer gas. The upper molars on the side where the foreign bodies were located had been extracted by someone other than Dr. Law. Dr. Law described in detail the procedure of preparing the syringe, the solution and the parts for the operation, as well as how the injection was made, and that what the patient thought was attempts to remove a broken needle was the operation of painting the point of juncture with iodine which was thrown into the waste basket from the pliers. His procedure was to make a local application and then the deep injection and after waiting about five minutes to inject on each side of the tooth to be removed. Both lower molars were prepared and injected immediately following each other. The extractions were made without any particular difficulty. About three or four days afterward the patient returned complaining of pain and inability to open her jaws. Dr. Law said he painted each side with iodine and advised hot applications and massage. He said it was an ordinary tresmus following the extraction of a lower third molar. In about a week or so later she came again and complained of limitation of movement as well as pain again. The same treatment was applied and the same advice given about two or more weeks she called with the same complaint and got the same advice from Dr. Law. It is not at all clear at this point if she saw Dr. Law again until the 5th of June. Dr. Law distinctly remembered Miss Sweetman's visit on the 5th of June and also the fact that Mr. Pickles was with her. He said he advised the patient to have X-ray pictures made and let him know about it. She got the pictures but did not let Dr. Law know about it. Dr. Law positively swore that he did not break a needle in the oper-

ation, and moreover swore that he had never broken a needle in the tissues in all his practice. He said he would know by the sensation if a needle had broken. In cross examination he was asked if the procedure of injection described was not simply a rehearsal of the usual way of making such an operation and not necessarily a description of what happened on this occasion. Dr. Law said he remembered this occasion. He was asked how he would know the sensation of breaking a needle if he had never broken one. The reply was from the sensation of breaking similar substances. The cross examination lasted one hour. Dr. Law was asked if he had a rehearsal with his assistant about what she had to say. He said he had talked the matter of the case but not what she had to say.

Dr. Edgar Paul was called to report from his records what teeth he extracted for Miss Sweetman. He was unable to find the records in the twenty minutes or so given him before he was required in court. Being cross examined it was his opinion that a needle could not be broken in the tissues without the operator knowing it and that anaesthesia of the area around the third molars would not take place if the injection were made where the needles were supposed to be as shown in the pictures. He said that in exercising usual care a needle might break. He had broken needles in the tissues and he had known needles to remain for years and cause no trouble.

Miss Laura Love, Dr. Law's assistant was called and swore that her duties were to receive the patients, attend the telephone, make accounts, and sterilize and care for the instruments. Dr. Law always placed the used syringe on the cabinet and it was her duty to take the syringe to pieces and sterilize it and reassemble it ready for use. She said she had not seen a broken needle and that she could not possibly have handled the instrument without noticing it. In cross examination she was asked if she remembered having done what she said in this particular case or was it the routine she was describing. She said that was the regular way of doing it and there was no reason for any difference in this case. She did not remember particularly in this case.

Dr. F. N. G. Starr was called and said he had a long experience in locating foreign bodies in the human tissues but he had no experience with needles in these parts, but he had in other parts. He had examined the X-rays in the hospital and had arrived at an opinion as to the location of the foreign bodies and agreed with what Dr. Richards had said in the matter. He did not believe that foreign bodies change their positions and that any text book which said they did were in his opinion wrong. Rose and Carless Johnsons, Smiths and others were presented as authorities, but Dr. Starr replied to all of these by saying that they were old editions and had not been brought up to date by the findings of the war and the use of the X-ray. He held that his experience was that they did not move. Dr. Starr had examined the patient for the court and said she had no limitation of movement of the jaws and that she said she had pain when she chewed meats but so far as he could see she was quite normal in health. The treatment by Dr. Law after the extractions was the recognized treatment and if the patient after several months had not recovered he would become exceedingly anxious.

Dr. F. E. Risdon was called and said he had both dental and medical training and was at present practicing surgery of the mouth, ear, nose and throat. He had spent four years in this work and was in charge of it in Christie Military Hospital.

In his opinion the X-ray pictures show the foreign bodies at least an inch higher up than would be used for mandibular injection which was made. Anaesthesia of the lower molar would not have taken place if the injection had been made at the point where the foreign bodies are now said to be located. He did not think the needles would move transversely across the muscle fibres as they would have to do in this case to go from the regular point of injection to their present location. He also said that there had been no movement of the needles as indicated in the pictures from June 7th, 1922, until December 4th, 1922. He also pointed out the great difficulty in saying at all positively the location of any foreign body from X-ray pictures alone. He knew many authorities believed foreign bodies move in human tissues, but it was not his experience, except under some form of pressure. He said if the trismus was caused by an irritation in one muscle, as would be expected from a steril needle, then the jaw would be drawn to one side, which did not seem to be the case here. He had not seen cases in which a steril needle caused trismus.

Dr. Webster, being asked if he would state to the court just where the needles were located, said inasmuch as Dr. Richards, Dr. Scott, Dr. Harrison, and others, had said just where the needles were located, and they had the help of the stereoscope, the fluoroscope, and operated on the patient and yet didn't get the needles, though they all knew where they were, there did not seem to be any advantage of another statement on the question. He said a dentist if at all careful would know whether he broke a needle or not. The chief cause of trismus comes from infection or traumatism associated with the lower wisdom teeth. Dr. Law was justified in his treatment when he knew there was no foreign body, either tooth root or needle, left in the tissues. There was no reason for an X-ray in every case of trismus. The treatment of massage counter irritation and passive movement was quite proper. He said it often happened that two lower wisdom teeth being extracted at one time do not have equal soreness, pain or trismus, owing to variations in resistance due possibly to trauma drugs and infection.

Several months after the trial and before judgment was given, Dr. Richards was asked to make several further X-ray pictures and explain their significance to the judge in the presence of the council for both parties, but not in the presence of other experts. Dr. Richards said one of the needles had moved in the interval, but he failed to state at what angle all the pictures had been taken. He did say they were at the same angle, but it would have been more convincing if he had stated at what the angle was or how it was attained.

This latter evidence rather discounted the evidence of former experts, and pointed directly to the conclusion that foreign bodies move in tissue, and if an X-ray had been taken immediately after the extraction the needles could have been located before they moved away and hid themselves in a remote or difficult position from which they could not be removed.

Almost a year and a half had passed from the time the trial took place until judgment was given against the defendant for $2,300. An appeal to the higher court failed to change the opinion of the trial judge.

# McKenzie vs. Everett

Early in January, 1924, a Mrs. McKenzie consulted Dr. Everett concerning a pain in the region of her left ear. Since she was wearing full upper and lower dentures, and upon a physical examination there appeared no evidence of irritation along the ridges, Dr. Everett sent her to an ear specialist, who found nothing wrong with her ear, and advised her to return to Dr. Everett, who sent her to a radiologist and received X-ray films, which showed the presence of a third molar in normal location but lying upon its side, the crown pointing anteriorally. The tooth was removed under gas anaesthesia by opening the buccal plate so as not to interfere with ridge and thus destroy the fit of the denture. After two or three visits the gums seemed to heal normally, but there was a continuous pain in the side of the head. Again she consulted an ear specialist without result. Nothing further was heard of her so far as Dr. Everett was concerned from February until July, when she arrived in his office with a small piece of root which she said Dr. Robertson had extracted and that Dr. Everett had broken in his operation. She demanded that she be paid the ten dollars she paid Dr. Robertson. This Dr. Everett would not do. She had not paid him yet.

It appeared in trial that Dr. Robertson had taken an X-ray picture and found a root of a tooth, which he removed, with great difficulty, in the presence of his laboratory man and nurse. Dr. Robertson swore this was the root end of a third molar and it was taken from the same area that Dr. Everett had removed the wisdom tooth a few months before. The inference was that Dr. Everett broke the tooth in removal and did not tell the patient. On the other hand Dr. Everett said he did not break the tooth because it came out with little difficulty with an elevator and was in a horizontal position, while the picture shown by Dr. Robertson the root he extracted stood vertical to the process. It also came out that the picture shown by Dr. Robertson did not show any of the land marks by which the location of it could be identified. However the patient recovered from her pain and brought action for $3,000 damages. Dr. Everett thought that the root which Dr. Robertson removed was of the first molar and was removed from that region because of its appearance and because he had removed all the root of the wisdom tooth.

It was charged that Dr. Everett was negligent because he did not have another X-ray picture made. But he and the experts contended that there was no need of another picture, because he had pictures which did not show but one tooth and he himself had removed it. Besides she had not consulted him for many months and when she went to Dr. Robertson there was evidence of pus which he said guided him as to what was wrong.

The judge in his decision decided that Dr. Everett was negligent in not having additional pictures made, but it is a remarkable thing that Dr. Everett's pictures showed but one root, while Dr. Robertson said he removed another from the same spot. The damages were assessed at $300.

This case was appealed and the higher court reversed the findings of the judge.

# A Method of Locating Radiopaque Substances in Tissue

J. L. Carrol, D.D.S., Brockville, Ont.

Patient—Married woman, age 49.

Dental History—All teeth extracted excepting four lower anteriors; last extractions six years ago.

Patient—referred by physician, complained of bad taste in mouth. Examination revealed pus flowing from a sinus immediately above the coronoid process of the mandible. The tissue on the inner surface of the ascending ramus was swollen and tough. Patient had no pain, but had lost in weight to the extent of thirty-five pounds.

An X-ray plate revealed a third molar lying horizontally within the ramus, as per illustration. In order to locate the place for the incision with some degree of accuracy two Michel's clips (small size) were fastened in

the gum tissue above the position in which the tooth appeared to lie. With these clips in place, another plate was taken, which the accompanying illustration shows.

The Michel's clips were then removed, the marks on the gum remaining as a guide to the operator. The patient was put under ether, an incision made along the internal oblique line from the position of the second molar to the neck of the condyle, tissue retracted, the bone lying above the tooth chiselled off and the tooth lifted out with an S. S. W. forcep No. 69. The wound was dressed daily for a month, and patient has gained fifteen pounds in eight weeks.

# Report on Dental Education in America

Prof. W. J. Gies, New York

## The Status of Dental Education

General improvements in the field of dental education, which the Foundation's study encouraged and which were mentioned in the last Annual Report, required unexpectedly so much further attention that it was impossible to complete the enquiry and prepare the Bulletin pertaining to it before the close of the year. Twenty dental schools in the United States and three in Canada were revisited during the past academic year; and forecasts of some of the findings of the study were formally presented and cordially received at an annual meeting of the American Dental Association in Cleveland, on September 11, 1923, and again at the first annual meeting of the newly organized American Association of Dental Schools, in Chicago, on March 6, 1924. With the continued generous co-operation of all the dental schools, and of the associations concerned directly with the progress of dental education, in Canada and the United States, the study has recently been completed and will soon be published. Some of its findings are indicated by the views and conclusions in the following sections.

### A. Dentistry a Highly Mechanical Division of the Healing Art

From the earliest periods of human history, the teeth have been subject to irregularity in arrangement, to decay and fragmentations, to loosening from their attachments in the jaws, and to partial or complete removal by accident or intent. Desire among the ancients for preservation of defective teeth, for fixation of loose teeth, and for esthetic restoration of lost parts of the visible dentition, initiated development of the art of dentistry, which has been traditionally a means of perfecting the mechanism of mastication, inducing oral comfort, correcting maxillary or palatal deformities, maintaining normal vocal enunciation, or enhancing facial comeliness. After centuries of cumulative refinement of its methods, the practice of dentistry has become, in the main, the art of realigning, repairing, rebuilding, and removing teeth; remedying diseased conditions within teeth and in tissues immediately adjacent to them; and replacing, functionally and esthetically with artificial substitutes, the visible parts of extracted teeth. The last of these phases long seemed to be the most important utility of the practice of dentistry, which, by reason of its outstanding reconstructive character and its minor evidences of curative quality, appeared to be a specialty of applied mechanics with only an incidental relation to the art of healing. In recent years, dentistry has also been aiming to repel disease through improvement of the resources of oral hygiene, chiefly by mechanical means.

### B. Dentistry Now an Independent and Closely Organized Profession

Dentistry began to assume an organized independence about eighty-five years ago, when the first journal of dentistry, the first national society of dentists, and the first dental school were established almost simultaneously in the United States. Before 1868, however, there were practically no legal restrictions on the practice of dentistry in the United States or Canada; dentistry was regarded generally as a mechanical trade that any one might undertake who was disposed to do so, and its organization was superficial and comparatively ineffective. The six dental schools then existing graduated, in that year, only eighty-nine dentists, the great majority of those who aspired to practise dentistry in that period preferring to learn the trade as apprentices in the offices of established dentists. In 1868, in response to cumulative demands for greater degrees of assured

responsibility and efficiency in dental service, the legislatures of three states enacted laws that defined dentistry and specified educational requirements for a license to engage in its practice in the corresponding territory. This example was followed, during the period from 1873 to 1899, by the other states individually, and since 1900 such a law has been in force in every state in the Union.

In all of the states in this country and the provinces of Canada, dentistry and medicine are regulated by law as independent though related professions. Admission to their practice is based on diverse educational requirements, which are exacted for each profession by state or provincial boards of examiners, or equivalent officers representing the people. The courts have interpreted these laws to mean that dentistry and medicine are unlike in fact and in law, and that a dentist is not a physician and a physician is not a dentist.

Dentistry is now a highly organized profession, with about 60,000 practitioners in the United States and 3,200 in Canada. In each there is a national association of dentists; and practically every state or province has a state or provincial society and many district and local organizations of dental practitioners. There are forty-three dental schools in the United States and five in Canada. The state boards of dental examiners in this country have maintained a national association since 1883. Representatives of the dental schools in the United States and Canada have supported various general organizations of their teachers and schools since 1884, but are now united in the American Association of Dental Schools. The Dental Educational Council of America, representing three national organizations of state examiners, of schools and teachers, and of practitioners, respectively, performs for dentistry, in the United States, the functions that the Council on Medical Education and Hospitals of the American Medical Association does for medicine. The American College of Dentists is analogous to such medical organizations as the American College of Surgeons and the American College of Physicians. The Fédération Dentaire Internationale unites the practitioners of all nations, and will hold its next quinquennial congress in Philadelphia in 1926. The International Association for Dental Research consists of five research societies in this country and one in Canada. Many of the dental organizations issue periodicals, and a relatively large number of independent dental journals are published monthly. These dental associations have been conducted in complete independence of the medical organizations; and, owing to failure on both sides to recognize the fact that the primary objectives of dentistry and medicine are identical—to keep people well—there has been very little practical co-operation between bodies representative of the two professions. Habit, not intelligence, has maintained this mutual disregard.

### C. Dentistry Not an Accredited Specialty of the Practice of Medicine

The abnormalities and diseases of such parts of the body as the eye, ear, nose, and throat are everywhere included in the practice of conventional medicine, and each is the primary concern of an important specialty of it; but in Canada and the United States, and also in other countries, the disorders of the teeth have been allotted to dentistry, which has been organized and is now legally defined and regulated as a division of the healing art that is intrinsically different from that of a specialty of medicine. The teeth and their closely adjacent tissues are the only parts of

the body that have been generally singled out as a special domain of remedial treatment that may not be included in its entirety in the practice of medicine.

The exceptional position of the art of dentistry, compared with the accredited specialties of the practice of medicine, has developed from early recognition of the unusually large proportion of direct manual labor and of the high degree of digital skill that were required in nearly every act in the realignment or replacement of teeth, and in their reparative, remedial, or reconstructive treatment. The attainment of that special status has been due in large measure, also, to the abiding influence of the ancient and mistaken opinions among physicians, generally, that dental disorders usually were wholly local in extension; were relatively unimportant in influence on the general health; and, therefore, occasioned medical attention only if and after adjacent parts had been involved or deranged so grossly as to necessitate treatment. These erroneous beliefs, which were promoted originally by physicians and which persist among them even now, have been fostered, also, by general misunderstanding of the significance of early medical observations that teeth were almost wholly devoid of the capacity for self-repair; that dental disorders were not curable with drugs but could be remedied by mechanical means alone; that all the teeth, whether healthy or diseased, could be broken off or extracted without serious lasting effects on the jaws or on the welfare of the body as a whole; and that substitutes for all of the visible parts of lost teeth could be mechanically fitted in the mouth for effective maintenance of the dental functions. The concurrence of these conditions of incapacity for self-repair, incurability by medical treatment, recovery from the effects of total loss, and completeness of functional restoration attainable by artificial substitution, which do not apply collectively to any other part of the body that is supplied with blood and nerves, seemed, in the superficial judgment of physicians, to justify medical indifference to the teeth and to dentistry.

As a result of these unfounded assumptions and of such misapprehensions of the import of dental disorders by physicians for centuries, medicine gave little attention to the health of the teeth. Although the advance of civilization has been accompanied by accentuation of dental abnormality, the desirability of careful enquiry in this field was persistently ignored by medicine; and, sharing the popular belief that decay of teeth was unpreventable and loss of teeth unavoidable, physicians helped to bring about universal resignation to the supposedly inevitable incidence of dental imperfection and suffering. Until recently, medicine viewed this situation with about as much concern as that excited by loss of hair from the scalp, and did little more to understand or to control the influences responsible for the one than for the other. Under such conditions of indifference and neglect in the practice of medicine, which reflected the crudity, ignorance, and superstition of its development, the work of repairing and removing teeth, and of preparing and fitting substitutes for the visible parts of lost teeth, was considered to be as unimportant medically as that of a barber, and was left indifferently to those whose special mechanical proclivities induced them to undertake it. A tooth was "pulled" or broken off for the relief of toothache, and strength was the only operative requirement. Any one who could make "false" teeth was free to fit them in his own way, and under any mutually satisfactory conditions, into the mouth of any one to whom they could be sold. All but a few physicians refrained from rendering such service; and, consequently, goldsmiths, jewellers, ivory turners, umbrella makers, blacksmiths, mechanics, wig makers, tinkers,

engravers, barbers, and itinerant jacks-of-all-trades, became the most numerous practitioners of dentistry, which remained a simple trade and a mechanical subsidiary to medicine until its leading practitioners, men of high ethical standards and enlightened endeavor, raised it during the last century to the status of a profession.

After ignorance, commercialism, and charlatanry had lowered dentistry so far in public esteem that its most earnest practitioners in America were finally impelled to devise special measures to rescue it from its degradation, a few doctors of medicine, who had been concentrating their attention on dental disorders and who had a deeper appreciation than their medical confreres of the relation of the condition of the teeth and mouth to human welfare, co-operated with a number of progressive dentists in efforts to elevate dentistry in public respect and to improve its quality by associating it intimately with medicine. They endeavored, though unsuccessfully, to establish instruction in dentistry in schools of medicine, the most important of their proposals to this end having been rejected, by the faculty of medicine to which it was made, with the decisive comment that dentistry was not important enough to be included among the subjects of instruction in a medical school.

This historic rebuff, administered in 1839, to earnest physicians and dentists who sought, in effect, to make dentistry a specialty of medicine, did not dishearten them, but did divert their purpose and threw them upon their own resources. With a vision of its greater respectability and its higher serviceability, they determined that, if dentistry could not be taught in medical schools, it should be given a suitable educational foundation in independent colleges of dentistry. Accordingly, in 1840, they established the Baltimore College of Dental Surgery. The first dental school began promptly to give instruction leading to the degree of Doctor of Dental Surgery (D.D.S.); graduated two students in 1841; and thus inaugurated formal dental education, which has been conducted in this country independently of medical education ever since, without objection from medicine and with little complaint from dentistry.

The educational needs of dentistry were ignored by American universities and schools of medicine until 1867, when Harvard established a dental school in affiliation with its medical school. Oliver Wendell Holmes gave instruction in anatomy and physiology to the students of both schools. Now, thirty-three universities in the United States have schools of dentistry.

The desirability of teaching the medical sciences to students of dentistry was appreciated by those who established the first dental school, and a degree of such instruction has been given in dental schools ever since; but dentistry's realization of its need for the medical sciences has never been keen enough to give to that instruction the quality it bears in medical education, or to impart to dentistry the character of a specialty of the practice of medicine. Growing need for laboratory facilities, to improve the instruction of dental students in the medical sciences, has induced administrative officers, in most of the universities containing both medical and dental schools, to bring about affiliations between these schools in order to prevent avoidable waste from unnecessary duplication of teaching resources; but such affiliations, which commonly take the form of instruction of dental students in laboratories in the medical buildings, have not been expressive of any desire or tendency anywhere to make dentistry a specialty of the practice of medicine. On the contrary, as a result of traditional antagonism, these adjustments, having been effected in most instances under high degrees of resistance from the medical or dental faculties concerned,

or both, continue to be more or less unwelcome to those collectively who objected to them in the first place. Medical faculties, as an outcome of this lack of understanding and accord, are often frankly indifferent to the conditions or quality of the instruction given in their laboratories to dental students. In turn, dental faculties, which usually have little more than a perfunctory interest in instruction in the medical sciences, make the best of such awkward situations, as guests of medical faculties, by submitting to what they cannot avoid. The burden of the public disservice from this state of affairs clearly rests upon the shoulders of the medical faculties concerned.

Further indications of the uncompromising independence of dentistry and medicine, and also of indefensible neglect of public duty, are the facts that, although the medical schools in this country and Canada include instruction in the common features of such specialties of medical practice as oto-laryngology, rhinology, ophthalmology, and dermatology, in the curricula prescribed for prospective general practitioners of medicine, these schools with few exceptions completely ignore clinical dentistry, as though it were wholly lacking in importance in the careful practice of medicine. They disregard the relation of dental disorders to the inauguration and progress of serious diseases in other parts of the body; fail to emphasize even the general associations between dental disorders and those of the closely related medical specialties named above; make no provision for effective instruction in surgery on the border line between dentistry and medicine; exclude practical dentistry from their dispensaries and hospitals; and decline to recognize dental service in its true relation to human welfare. Even research in dental relationships is regarded, in important schools of medicine, as something intrinsically inferior. These deplorable conditions occur in universities where dental and medical schools are closely associated; but, despite the prevailing medical indifference to the import of clinical dentistry, many physicians, often against the protests of the dentists of the patients concerned, peremptorily order extraction of particular teeth, or possibly of all remaining teeth, on the assumption, apparently, that a dentist's judgment cannot be right when it conflicts with a physician's guess. On the other side, however, it is also true that the biological ignorance of many dentists, owing to deficiency in their education in the medical sciences and in the requirements of oral health service, often mitigates the intolerance of physicians for the views of dentists in particular instances of seeming correlations between dental and extra-oral disorders, and frequently makes contributions by dentists to consultations on health service patently unreliable.

D. Dentistry Properly a Form of Health Service That Should Be Made Equivalent to That of an Oral Specialty of Medicine

Recent advances of science on the borderlines between medicine and dentistry, particularly during the past fifteen years and especially from the contributions of pathology, bacteriology, and roentgenology, have shown that certain common and simple disorders of the teeth may involve prompt or insidious development of serious and possibly fatal ailments in other parts of the body. It has also been demonstrated that dental service, even when superficially perfect from purely mechanical and esthetic points of view, may hide or evolve local pathological conditions favorable to the onset of infectious disease elsewhere in the system, if and when that service disregards certain physiological requirements that neither dentistry nor medicine appreciated before the advent of recent discoveries. A discriminating attitude by individual physicians and dentists toward dental

disorders, in the light of the earliest of these disclosures, led to the definite establishment of specific relationships between oral and systemic conditions, and has aroused belief in the existence of others awaiting detection. The reality of such significant correlations has emphasized the desirability of searching enquiry into their nature and into the extent of their occurrence for the promotion of more accurate diagnosis and of more nearly perfect control, by both dentists and physicians, of numerous conditions of local or general disease.

The import for dentistry and medicine of these significant findings on the borderline between the two, and of the further discoveries they presage, is obvious. They force the conclusion that dentistry is an important mode of health service, and that, in general, its practice is quite as significant for the maintenance of health as that of the accredited specialties of medicine. Dentistry should no longer be ignored in medical schools, and its general health-service features should be given suitable attention in the training of general practitioners of medicine. Antagonism between medicine and dentistry cannot be explained on any basis of public interest or advantage and has no justification in any sentiments that are worthy of respect, for both professions are agencies for health service and cannot perform that service faithfully on any other conditions than those of earnest and effective co-operation. The practice of dentistry should be made either an accredited specialty of the practice of conventional medicine, or fully equal, in grade of health service, to an oral specialty of medicine.

There are two sides to the question raised by the alternatives in the last preceding statement. Against the desirability of a conversion of the practice of dentistry into an accredited specialty of the practice of conventional medicine are a number of important prevailing conditions. Neither organized medicine nor organized dentistry desires such a conversion or would be content with it. Since the dental and medical statutes in every state in this country, and in every province of Canada, oppose serious obstacles to it, the dental laws would have to be changed to permit it. Owing to the need for exceptional digital facility in the manifold intra-oral procedures of dental practice, the extensive technical training and clinical instruction peculiar to it cannot be superimposed on a conventional medical curriculum, leading to the degree of M.D., without making the period of dental training prohibitive in length for most prospective general practitioners. On the other hand, the medical curriculum is too rigid, and the views of medical state boards and of medical teachers are too unyielding, to permit substitution of training in the essential mechanical aspects of dentistry for anything now contained in the required parts of the undergraduate medical curriculum, although the inclusion of dental subjects among the prospective elective courses to be open to candidates for the M.D. degree would facilitate development of dental instruction under the auspices of medicine. Unlike the practice of some specialties of medicine, such as that relating to disorders of the eyes by diagnostic and directive medical specialists in ophthalmology (oculists), supplemented by modern optometrists as specialists in refraction and by opticians, the practice of health service applied to the teeth could not be divided properly among analogous stomatologists, dentists, and dental technicians. Such a distribution is unattainable because dentistry, in all its terminal manifestations, must be practised in the mouth of the patient, which cannot be done reliably

without responsible comprehension of the import of the variable biological conditions involved and without adequate ability to perform the requisite intra-oral hand-work.

In support of this statement it may be said that the details in an ophthalmologist's or an optometrist's prescription for a pair of glasses can be obtained and transmitted with exceptional precision. On such a prescription, glasses can be made by machinery, by an optician, with relatively perfect accuracy, under standard and stable conditions, and the glasses can be fitted by an optometrist (or optician) by very simple superficial adjustments that may have considerable range of mechanical and biological variation without detriment to the patient's eyes. In dentistry, however, the equivalent of an ophthalmologist's (or optometrist's) prescription cannot often be "obtained and transmitted with exceptional precision," nor filled accurately by machinery; and the dental analogue of an optician's glasses must be fitted as a rule with microscopic exactness to prevent accession of microorganisms into the substance of the tooth or teeth affected, and to avoid unnatural or undesirable contacts with or stresses upon the teeth involved or against which the appliance impinges. Anything to be placed in or upon the teeth, however well prepared it may be mechanically, rarely fits perfectly when first tested, but must be directly and often patiently adapted because of the individual peculiarities and the inherent difficulties of the attending variable oral and operative conditions. For this reason, therefore, an appliance made by a dental technician from a dentist's models or specifications cannot be fitted by the technician or any one else as superficially as an optometrist (or optician) effectively adjusts a pair of glasses. On the contrary, it must usually be modified, and tested in place in the mouth, until it is a perfect fit, in accordance with all the complex anatomical, physiological, and esthetic requirements and the extreme degree of mechanical accuracy involved; and then must be skilfully put into place, and adjudged mechanically and biologically sound, and artistically satisfactory, by the "diagnostic and directive" practitioner of dentistry himself. A dental technician can prepare an appliance from a dentist's models or specifications and, under a dentist's supervision, can adaptively modify it; and, by attending co-operatively to various *extra*-oral procedures, a technician can very effectively and desirably increase the amount of the direct personal *intra*-oral service of the dentist he assists; but without the education in the medical sciences that the practice of dentistry requires, the most competent dental technician, who with such additional training would be a dentist and not a technician, could not be safely entrusted with the responsibility of fitting appliances into or upon teeth, and at present could not do so without violating the statutes that regulate the practice of dentistry in this country and in Canada.

On the other side of the question raised above, it is clearly essential, from the point of view of public welfare, that, if dentistry cannot be made the health-service equivalent of an oral specialty of medicine within the scope of the practice of conventional medicine, it should be given that character in continued independence of conventional medicine, so far as organization is concerned. For the lay public, quality of health service rather than traditions or partisanships pertaining to such service is the primary desideratum, and medicine or dentistry by any other name would be a service just as grateful. If dentistry, having been developed and established as an independent form of organized public service, can rise promptly to its opportunity to become the full health-service equivalent of

an oral specialty of medicine, and will do so in good order and without economic waste, as it appears to be inclined to do, then few would welcome the needless embarrassments and demoralizations that would follow an attempt to destroy progressive dentistry by forcibly including it in conventional medicine. If, however, dentistry as now organized should not wish to become or could not develop into the full health-service equivalent of an oral specialty of medicine, public interest would ultimately require the creation of an accredited specialty of medicine to render oral health service in conformity with all the evident necessities of such practice.

It should be clearly realized that actualities rather than labels or symbols are the important factors in a consideration of this situation. It is helpful to recall in this relation that the term "medicine" is commonly used to signify not only the healing art in a general broad academic sense, but also to indicate particularly the practice of that part of the whole of the healing art that is commonly taught to those who receive the degree of M.D. "Healing art," as a term, does not logically include the application of means of preventing the occurrence of disease or of maintaining health and normality, but medicine and dentistry are employing such agencies with increasing effectiveness in the most desirable extension of their usefulness; nor does the "practice of medicine" include such factors in health conservation as dentistry, public-health administration, nursing, or pharmacy. By regarding the practice of these and also some minor types of activity for the maintenance of health or for the prevention or cure of disease, together with the practice of conventional medicine, as divisions or branches of *health service* instead of division or branches of "medicine," one not only follows a logical and convenient course of reasoning, but also ignores the insignia of useless professional partisanships and obtains a clear suggestion of the proper position and due recognition of the practice of dentistry as it is, and also as it may be extended.

The outstanding deficiency of the science of dentistry has been its inability, hitherto, to lay the foundations for discovery of methods for the general prevention of decay of teeth and of diseases of the closely adjacent tissues. Discovery of means to these fundamental ends would revolutionize the practice of dentistry by eliminating most of the occasion for it. Although these disorders are among the most commonly occurrent of all bodily ailments, medicine has ignored them; and dentistry, in her absorption in oral mechanics, has been helpless before them and, until recently, has been content to follow with repairs, reconstructions, and replacements. The primary causes of dental decay and of periodontal disease appear to be hidden in the biological secrets of the conditions or processes of dentition and nutrition, or of oral variability, or of all of them; and it seems probable that the causative influences, whether related to defective dental development or impaired nutrition, or involved in particular conditions of dental environment, will not be discovered until the medical sciences are used effectively to that end. When dentistry becomes equivalent to an oral specialty of medicine, dental vision and effort, combined with biological understanding and aided with methods of enquiry of corresponding adequacy, may be expected to bring these dental maladies into the realm of the completely preventable disorders, if that should not be inherently unattainable. Comprehensive and penetrating research in these relationships is a basic need for the universal promotion of human welfare.

*(To be continued)*

# Societies

## Preliminary Programme Ontario Dental Association, May 26, 27, 28, 29, 1925

University of Toronto, Arts Building and Hart House

Officers and committees of the Ontario Dental Association: *Hon. President,* Fred. J. Conboy, Toronto, Ont; *President,* Walter G. Thompson, Hamilton, Ont.; *Vice-President,* J. C. Devitt, Bowmanville, Ont.; *Archivist,* C. Angus Kennedy, Toronto, Ont.; *Secretary-Treasurer,* J. A. Bothwell, Toronto, Ont.

*Board of Governors*: Fred. J. Conboy, Chairman, O. S. Clappison, W. L. Chalmers, W. B. Amy, A. W. Winnett, T. B. Campbell, A. W. Ellis, F. P. Moore, H. A. Hoskin, E. R. Zimmerman.

*R. G. McLaughlin,* Chairman Advisory Committee.

*A. W. Ellis,* Chairman Oral Hygiene Committee.

*Clinics*—O. S. Clappison, W. G. Thompson, F. P. Moore, T. B. Campbell, W. B. Amy.

*Exhibits*—E. R. Zimmerman, A. W. Ellis,

*Publicity*—Fred. J. Conboy, R. G. McLaughlin, W. L. Chalmers, A. W. Winnett, J. C. Devitt, T. B. Campbell, R. J. Sprott.

*Entertainment*—W. G. Thompson, R. J. Sprott, A. W. Winnett, F. P. Moore.

*Arrangements*—C. A. Kennedy.

### The Last Call

All arrangements have been completed and we are now prepared for the biggest and best Convention in the history of our Association. As you read this Preliminary Programme you will say,—"the best ever, the boys have spared neither trouble nor expense." Outstanding dentists from all parts of the Continent will read papers and give clinics upon carefully selected subjects, and the whole Convention will be a post graduate course of great value and merit.

We urge you to register early, so that you can take advantage of the accommodation available at the University Residences, and also secure your choice of clinics.

*NOTE*: An official souvenir programme will be distributed at the opening of the Convention.

### PROGRAMME

Toronto (Daylight Saving) Time, Tuesday, May 26, 1925

MORNING—9.00-12.00—Registration.

AFTERNOON—1.00-1.30—Moving and Still Pictures showing material for Oral Hygiene lectures.

1.30—Official Opening.

2.00—President's Address—Col. W. G. Thompson. Announcements.

2.30—Dr. Harry B. Johnston, Atlanta.

(a) "Pulp canal opening and filling."

(b) "The positive destruction of apical infection."

4.00—Dr. M. M. House, Draner Institute, Kansas City.
Dentures—"Correct diagnosis; its necessity and value."

EVENING—5.30—Royal College of Dental Surgeons. College Home Coming—Complimentary Luncheon, Meeting, Dance.

WEDNESDAY, MAY 27, 1925

MORNING—9.00-12.00—Clinics.

12.00—Group Photo—in front of Arts Building.

12.30 sharp—The Great C.A.D.C. RE-UNION DINNER. Speaker, Bishop Frank DuMoulin, Detroit. Entertainment. Orchestra. Sing Song.

AFTERNOON—2.00—Annual Meeting Dentists' Legal Protective Association—important announcement (open to all dentists). Report of the Oral Hygiene Committee of the Ontario Dental Association (illustrated with lantern slides). Dr. Arthur W. Ellis, Chairman.

2.45—Dr. Weston A. Price, Cleveland.

4.00—Exhibits.

EVENING—7.00—Dinner Dance—Crystal Ball Room, King Edward Hotel, Romanelli's Orchestra. Character and Classic Dances. Community Singing. Soloists.

THURSDAY, MAY 28, 1925

MORNING—9.00-12.00—Clinics.

12.30—Class Re-union Dinner. Honored Guests: Dentists who have been members of the profession for fifty years or more. Speaker: Reverend Gabriel Maguire, of Westmount, Quebec. One of the best speakers in Canada. Subject: "Hunting Big Game in Africa." Community Singing. Special features.

AFTERNOON—2.00—Business Meeting. Election of Officers.

2.30—Weston A. Price, Cleveland.

3.30—Exhibits.

EVENING—6.00—Masonic Meeting, when the members of the Craft will be the guests of University Lodge at the Yonge Street Temple, corner Davenport Road. Speaker: Reverend Gabriel Maguire. Subject: "Prehistoric Masonry." Fraternity re-unions. Class re-unions. Theatre parties.

FRIDAY, MAY 29, 1925

MORNING—9.00-12.00—Clinics.

12.30—Oral Hygiene Dinner, followed by Conference of those interested in School Dentistry and Oral Hygiene Activities. Speaker: Evelyn C. Schmidt, Director, Department of Dental Health Education, American Dental Association.

AFTERNOON—1.00—Golf, Golf, Golf. See Special Announcement. Committee: Dr. R. S. Woollatt, Dr. G. V. Morton.

WEDNESDAY, THURSDAY, FRIDAY

MORNING—9-12.

Section A.—Clinics—Inlay and Bridge Work—Drs. Mortonson and Mortonson, Milwaukee.

Section B.—Partial Dentures—Dr. J. Galvin Woodworth, Buffalo. Gold Clasps—Dr. I. H. Ante.

Section C.—Full Dentures—Dr. M. M. House, Dr. J. A. Bothwell.

Section D.—Root Canal Treatment—"The Callahan-Johnston method

of opening and filling canals"—Dr. Harry B. Johnston, Atlanta. "Copper Amalgam as a root canal filling"—Dr. Fred. C. Husband. "Focal Infection"—Dr. Weston A. Price, Cleveland.

Section E.—Periodontitis—A complete course covering diagnosis, treatment and instruction in the use of the tooth brush, for tooth cleansing and gum stimulation—Dr. Harold Keith Box, Dr. Paul R. Stillman, Dr. John Oppie McCall, Dr. R. M. Box, Dr. C. E. Sutton, Dr. W. G. Trelford.

Section F.—Minor Oral Surgery and Anaesthesia—Dr. Edgar Paul, Dr. Frank Jarman, Dr. B. R. Gardiner, Dr. Everett, Dr. W. L. Chalmers, Dr. W. B. Amy.

### Synopsis of Clinics

Dr. M. M. House.—"My clinics will show the methods and value of diagnosis as applied to full denture construction and occlusion. I would like to have several patients who are wearing two full dentures, a full denture and a partial denture, a full denture with either natural or bridgework."

Drs. Mortonson and Mortonson—Inlay and Bridgework.

This Clinic will embody the following: Cavity preparation, demonstrated by cavities cut in large plaster models; wax manipulation, showing proper condensation at gingival seat; investing wax pattern; burning out of mold, etc.; a technique for the construction of a Fixed and Movable fixed bridge, showing different steps such as model making, porcelain tips, stress breaking, etc.; a technique showing the various steps in movable-removable bridgework. A number of finished cases will be shown. The above will be fully illustrated by the use of lantern slides.

Dr. Irvin H. Ante—The Clinic on a New Clasp for Removable Bridge-Work or Partial Dentures.

Gold Clasps have come to occupy a large place in the practice of most dentists, and are the source of a considerable portion of their income. It is, therefore, the duty of every practitioner to so perfect and systemize his technique that he will be able to produce the most perfect restoration with the least expenditure of time. So many problems are involved in the making of a really good clasp restoration that it should be worth while to give every detail careful study. There have been many improvements in the technique as a result of scientific studies in different kinds of clasps, the metal employed, the form of the metal, annealing and hardening, etc. All of these make for higher percentage of successful operations.

Many of the finer details in clasp restoration are not applied in practice, such as, the correct fundamental principles in design and construction, the choice of clasps, wire plate, and cast clasps, compound clasps, inlays and clasps, crowns and clasps. A new and practical method will be presented of forming clasps also restoring elasticity and hardness to annealed golds used for clasp purposes by a scientific heat treatment. The different golds for all kinds of clasps will be discussed with special reference to radio melted gold wires for clasp use. Saddle design and construction of vulcanite and gold, which will permit close contact with the mucosa, will be considered, also Stress Breakers, their use and abuse. All of these principles have been studied with the utmost care and tested out on practical cases.

Every step will be demonstrated with specially constructed models and illustrated with charts, photographs, and lithographs, along with a fine collection of models to show finished cases. Something new and worth while for the average dentist. Do not miss it.

## ANNOUNCEMENTS

*Time*—Toronto (Daylight Saving) Time will govern the hours of the Convention. Each Session and Clinic will start punctually at the hour indicated on the programme.

*Essayists*—Note the fact: The Board of Governors has secured the best essayists obtainable for this Convention.

*Clinics*—As it is impossible for every dentist attending the Convention to see all the Clinics, it is requested that those having a choice should send in a list of Clinics they desire to see, in the sequence of their preference. The Clinic Committee will allot the tickets in the order of registration. As the advance reports indicate a large attendance, prompt action must be taken.

*Accommodation*—Arrangements have been completed for the accommodation of the delegates and the ladies, who accompany them, whereby the men will occupy the residence on Hoskin Avenue, and the ladies will occupy the Women's Building at 100 Queen's Park. Both these residences are close to the Convention Headquarters. The suites consist of two bedrooms, with a common sitting-room, and hot and cold water. We have reserved accommodation for one hundred men and twenty-five women, at the rate of $1.00 per day, with a minimum charge of five dollars.

Those wishing to reserve accommodation should communicate as early as possible with Dr. C. Angus Kennedy, 86 Bloor Street West. Hart House will serve meals for those in attendance.

*Parking Space*—The Avenues around the University Buildings provide ample space for parking cars without danger of police interference.

*Exhibits*—The list of exhibitors this year is the largest in the history of the Association. All modern instruments and equipment will be shown, and special time has been reserved on Wednesday and Thursday afternoons so that the delegates can have sufficient time to see the exhibits.

*Entertainment*—The Ladies' Entertainment Committee has arranged a most enjoyable programme of events for the visiting ladies, including a Luncheon, Bridge, and Tea. The guests are requested to register at the opening of the Convention, and a Committee will be in attendance to welcome them.

*Ladies' Committee*—Mrs. W. B. Amy, Mrs. Wallace Seccombe, Mrs. R. G. McLean, Mrs. C. A. Kennedy, Mrs. A. D. A. Mason, Mrs. E. A. Paul, Mrs. J. A. Bothwell, Mrs. W. L. Chalmers, Mrs. A. W. Ellis, Mrs. E. L. Gausby, Mrs. A. J. Broughton, Mrs. A. E. Webster.

*The Annual Home-coming Reception* will be held at the Royal College of Dental Surgeons on Tuesday, May 26th, at 5.30 p.m.

PROGRAMME:

5.30-7.00—Buffet Supper (Complimentary).

7.00-8.00—General Meeting—Announcement of vote on University question, and proposed re-arrangements of the five year curriculum, with general discussion.

8.00—Informal Dance. All Dentists and friends invited.

*The Canadian Army Dental Corps Re-Union Dinner* on Wednesday at 12.30 Noon sharp. This dinner is held in honor of the Ontario Dentists, who left successful and lucrative practices to answer the call of King and Country, by enlisting in the Army, and who, as a result of these personal sacrifices, performed a service to the soldiers, which is one of the outstanding features of the Great War. Foremost among these men is our worthy President, Colonel W. G. Thompson, whose contributions to Den-

tistry have been so numerous and valuable that they have won for him the esteem and admiration of every member of the profession. The special speaker upon this occasion will be Bishop Frank DuMoulin, Detroit.

*Dinner Dance* at the Crystal Ball Room, King Edward Hotel, Wednesday evening, May 27th, at 7 o'clock. The committee has been successful in securing the Russian dancers, Miss Rogge and Mr. Leonidiff, to entertain us with their charming character and classic dances. We will also have Community Singing and Solos. Romanelli's Orchestra will provide the music for dancing.

Toronto Dentists are urged to assist the committee by getting their tickets early.

*The Class Re-Union Dinner* on Thursday at 12.30. Be on hand to honor the men who graduated from the old School more than fifty years ago. We will be seated at the tables according to the year of graduation. We are going to have a "big time." The Speaker at this Dinner will be the Rev. Gabriel Maguire, a member of the Royal Geographical Society of London, England, a man who has travelled all over the world, and one of the finest speakers in Canada.

*Masonic Meeting*—University Lodge extends a cordial invitation to all members of the Craft to be their guests on Thursday evening, May 28th.

Programme:

6.00—Dinner and Entertainment.

8.00—Initiation. Chairs to be taken by dentists.

9.30—Address—Rev. Gabriel Maguire—"Prehistoric Masonry."

Further information can be secured from the Officers and Members of Craft Club, who will be delighted to register those who desire to attend.

*Oral Hygiene*—The Oral Hygiene Committee is preparing a fine exhibit for the Convention. Motion pictures, still pictures, posters, and pamphlets, will be shown. Miss Evelyn C. Schmidt will exhibit the material used by the American Dental Association, and will deliver an address on Friday afternoon, following the luncheon. Dr. A. W. Ellis, the chairman of the Oral Hygiene Committee, is preparing a report, which will be illustrated by slides, and will outline the activities of the new Dental Department under the Ministry of Health.

*Announcement Extraordinary*—The Board of Governors is pleased to announce that every Dentist who attends the Convention will be given a bulletin prepared by Dr. Paul R. Stillman, and containing a clear and detailed description of the twenty signs of incipient Periodontal Disease, as worked out by Dr. Harold Keith Box. The bulletin will also contain large photographs of these conditions taken from the mouth. From the information secured in this way, it will be quite easy for any dentist to detect these early indications of Periodontal Disease.

*Golf*—Golf Committee: Dr. R. S. Woollatt, Dr. G. V. Morton.

Golf; Golfitis; Golfibitus; are the greatest words in the English language, excepting, "Will you have another drink?" Golf will make you fat or thin. It exhilarates or depresses. It will make a better liar out of you. It exercises your body, your vocabulary, your imagination, your thirst, your appetite, your digestion, your assimilation, your pocket-book. Your daily office work will be better or worse. It is the one other thing besides orthodontia that you will never know all there is to know about. It is far superior to cross-word puzzles, and depending on how you play the game will make you either kiss or kick your mother-in-law. It stimulates, it invigorates, and permits you to relax in the arms of Morpheus, and

thereby recuperates you, that you may again arise to give battle to your arch-enemy, Periodontia. With the assistance of an eagle-eyed caddie, who always finds your ball, improves your lie, and keeps your score, you are enabled to fill to overflowing your soul (if you have one) with the joy that passeth all understanding. It improves your concentration, relaxation, procrastination, Coué-ism, and alibi-ism. In fact, it is so valuable that it is past understanding why the Scots gave it away instead of selling it.

For the above reasons we are going to have a round of Golf. No matter how good or how poorly you play, there will be prizes for everyone that you can take home with you and exploit and extol before your friends and patients, and thereby bask in their adoration and hero-worship of you. The cost will be $3.00; as man to man we ask you, can you pass up such an opportunity.

We extend thanks to the many firms who by their generosity are helping to make this part of our programme a success.

A full list of the prizes, together with the various events, will be published in the final programme.

*Registration Fee*—The Registration Fee is ten dollars. Members of the profession are urged to register as soon as possible, and if they desire to reserve accommodation, to communicate with Dr. C. A. Kennedy, 86 Bloor Street West.

*The Dental Nurses' Alumnae* are planning a very interesting programme for May 27 and 28. The fee for registration is $1.50, which includes the Luncheon on May 27, and the Afternoon Tea on May 28.

Every Dentist in Ontario who has a young lady in his office is cordially invited to bring her to our Convention, and we feel sure that they will both be benefitted.

*The Proposed Programme*:

Registration—May 26 from 4-5.30 p.m., May 27 from 9-10 a.m.

Speakers—May 27, 10 a.m., Dr. Fred. J. Conboy, Director of Dental Services, Ontario; 11 a.m., Dr. Weston Price of the Research Department of the American Dental Association, Cleveland; 12.30, Luncheon, speaker, Capt. A. D. Robb. May 28, 10 a.m., Dr. Harry Thompson; 11 a.m., Mr. A. L. Boyd, Sheldon Schools; Subject, Psychology; 2.30, Dr. John Oppie McCall, New York College of Dentistry; 4.30-5.30, Afternoon Tea.

## LIST OF EXHIBITORS

Ash-Temple Company, Toronto; Chayes Dental Instrument Corp., New York; The L. D. Caulk Co. of Canada, Toronto; Antidolar Mfg. Company, Springville; National Refining Company, Toronto; Ritter Dental Mfg. Co., Inc., Rochester; Corega Chemical Company, Cleveland; The Heidbrink Company, Minneapolis; The Dentists' Supply Company, New York; The Hugo Friedman Mfg. Company, Chicago; Edward Green, Toronto; Woods Chemicals Limited, Toronto; Harry J. Bosworth Company, Chicago; The Wingate Chemical Co., Ltd., Montreal; J. Hargreaves Mfrs. Agents, Toronto; The Denver Chemical Mfg. Co., New York; Mallinckrodt Chem. Works of Canada, Toronto; The Lavoris Chemical Co., Toronto; W. Lloyd Woods Ltd., Toronto; The Williams Gold Refining Company, Bridgeburg; Detroit Dental Mfg. Co., Detroit; Ransom & Randolph Co., Toledo; Allen & Rollaston Laboratory, Toronto; The Dental Co. of Canada, Toronto; Pelton & Crane, Detroit; Cameron's Surgical Specialty Co., Chicago; Poloris Co., Inc., New York; Gilmour Bros. & Company, Montreal; Bristol-Myers Co., New York; Fellows Medical Manufacturing Company, Inc., New York; Lambert Pharmical Co., Toronto; Goldsmith Bros., To-

ronto; Victor X-Ray Corporation, Chicago; Wilmot-Castle Co., Rochester; S. S. White Company of Canada, Toronto; The Pepsodent Company, Toronto; Kress & Owen Company, New York; Consolidated Press Ltd., Toronto; Stratford-Cookson Co., Philadelphia; W. G. M. Shepherd, Montreal; Ayerst, McKenna & Harrison, Montreal; Friedman Specialty Company, Chicago; McAinsh & Co., Ltd., Toronto; Rubberset Company Ltd., Toronto; E. R. Squibb & Sons, New York; H. R. Lathrop & Co., Inc., New York; The Columbus Dental Mfg. Co., Columbus; E. J. McCormick Rubber Co., Inc., Lodi, N.J.; A. Wander, Limited, Toronto; A. C. Whitely Laboratory, Toronto.

Date.....

John A. Bothwell, D.D.S.,
Secretary and Treasurer,
Ontario Dental Association,
86 Bloor Street West, Toronto.

Dear Doctor:

Herewith, I enclose my Convention Fee of Ten Dollars.

The following in order of my choice (as indicated by letters showing Sections) are the Clinics I desire to see:

I would like to attend the following functions:

NAME.....

ADDRESS.....

Please write name plainly, preferably in block letters.

State number of ladies accompanying.

Send reservation for accommodation to Dr. C. Angus Kennedy, 86 Bloor Street West, Toronto, Ontario.

## Academy of Dentistry, Toronto

The closing meeting of the Academy of Dentistry, Toronto, for the season 1924-25 was held at the Prince George Hotel on April 1st, 1925. Dinner was served at 6.30 p.m. The speaker of the evening was Mr. R. Dunbar of the Canada Life Assurance Co. His address was listened to with the closest attention, containing, as it did, valuable information on the managing of finances and investments, protecting estates and making satisfactory wills, etc.

Most encouraging reports were presented by the President for the study groups, and by the treasurer, secretary and chairman of the Oral Hygiene committee. The membership of the Academy for the year was 255, the largest in its history.

Dr. John Thompson and Dr. Mullett of West China spoke of their work there in an interesting manner.

Dr. Day introduced the new President, Dr. W. G. Spaulding, who promised a splendid year for 1925-26 and bespoke the co-operation of all present.

The Council for 1925-26 is as follows: Past President, Dr. Arthur Day; President, Dr. W. G. Spaulding; President elect, Dr. H. G. Robb; Secretary, Dr. S. S. Crouch; Treasurer, Dr. R. S. Woollatt; Councillors: Dr. F. Risdon, Dr. A. S. Thompson, Dr. G. V. Fisk, Dr. H. A. Ross.

In a recent symposium in "The Mother" on *Is Milk Proper Food After Weaning?*. The conclusion is reached that it is not nature's food for man, but better than other denatured foods, such as denatured cereals, cooked meats and tinned vegetables and fruits. One author points out that animals fed wholly on milk will not develop reproductive power, so it cannot be a whole food. During recent years there have been many investigators point out the inefficiency of milk as a food, but even so it is better than other apartment house foods.

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# International Association for Dental Research

*Annual Meeting, March 20th, 1925, Congress Hotel, Chicago.*

PROGRAMME.

No. 1. "Conclusive Evidence That Dental Enamel Contains Albuminous Matter," Chas. F. Bodecker and William J. Gies.

No. 2. "Does the Enamel of a Fully Erupted Tooth Use Nutriment or Reject Waste Matter?" Leon Williams and William J. Gies.

No. 3. "Crystalline Proteins Isolated from Urine," W. H. Walker.

No. 4. "Round Cell Sarcoma of the Alveolar Process," by Dewey and Shaefer.

No. 5. "Unusual Tumor of the Roof of the Mouth," H. A. Potts.

No. 6. "Pulp Abscesses at the End of the Guttapercha Fillings Compared with X-ray Findings," E. H. Hatton.

No. 7. "Study of the Efficiency of Dental Fillings," C. Jane Fraser.

No. 8. "Clinical Observations of Copper Amalgam as a Root Filling Following Special Technique," Fred C. Husband.

No. 9. Discussion regarding Information of Library and Museum.

No. 10. Business Meeting.

NOTE.—The above programme gives some indication of the work followed by the members of the International Association for dental research. (Editor).

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Officers of the International Association of Dental Research:

Honorary President—W. J. Gies.
President—Frederick B. Noyes.
Secretary—Leroy S. Miner, Harvard University, Boston.
Treasurer—Arthur D. Black.

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Officers of the Academy of Dentistry, Hamilton, Ont.: Dr. J. E. Johnston, president; Dr. G. W. Everett, vice-president; Dr. J. F. McDonald, treasurer; Dr. J. D. Brown, secretary.

The Canadian delegates to the Washington State Dental Society were the guests of the Society.

A. W. Thornton, D.D.S., L.D.S., Dean McGill University, Dental Faculty, the new President of the American Association of Dental Colleges.

Officers of the American Association of Dental Colleges:
President—A. W. Thornton.
President Elect—H. E. Friezel.
Secretary—Hill, Atlanta, Ga.

Mr. A. L. Hayes, R.C.D.S., is elected president of the Students' Parliament; W. J. Ross, treasurer; A. L. Vance, Edward Fisher, W. A. Wolfe and R. J. Fleming as presidents of the various years.

# Editorial

EDITOR:
**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

ASSOCIATE EDITORS:
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ALBERTA—H. F. Whittaker, D.D.S., L.D.S., Edmonton.
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BRITISH COLUMBIA—E. H. Hetherington, D.D.S., L.D.S., Victoria.
ONTARIO—S. Stewart Crouch, D.D.S.

Vol. XXXVII TORONTO, MAY, 1925 No. 5

## Malpractice

There seems to be a new thought brought into malpractice suits of late. It is held by two or three recent court decisions that such accidents as fracture of the jaw, the tooth or a needle in the performance of an operation is not malpractice, but to fail to inform the patient or institute correct after treatment or to make a correct diagnosis of what happened constitutes malpractice. In the Sweetman vs. Law case, Dr. Law swore he did not break a needle and based on this fact his treatment of hot fomentation, counter irritation and massage was correct. There was no need for an X-ray if the teeth were all extracted and he was sure there was nothing left behind. An X-ray picture, however, showed two foreign bodies which looked like needles, but which could not be removed by surgery and the evidence of those who should know best, say they did not move from where they were originally broken. So the patient was no worse off nor no better for knowing that needles were broken in her tissues. Besides it has not been shown that the foreign substances showing in the pictures are needles. The fact is the judges believe that Dr. Law broke a needle in the jaw and advised against X-rays and that the needles moved after they were in the tissues. There doesn't seem to be anything in the evidence to substantiate this view.

The court does not seem to take much notice of the well established fact that many people do not suffer from what they know not of. Miss Sweetman's suffering was certainly not reduced one particle by being told there was a needle in her jaw but undoubtedly was increased by the treatments, the surgery, and the mental anxiety. When she suffered from trismus it surely could not have been caused by the physical presence of the needle, or massage would not have relieved it. Just how massage of soft tissues containing two short needles could relieve pain is a mystery to the writer.

# Disclaim Authorship of Publication

One of the dental trade journals commenting on copper amalgam as a root filling material makes it appear that the University of Toronto and the Royal College of Dental Surgeons disclaim any knowledge of the fact that copper amalgam is an antiseptic or useful as a root filling, which is foolish, because the work on the antiseptic properties of filling materials was done in the laboratories of the University under the supervision of the late Prof. McKenzie, and authorized for publication by the department of Dental Research. The disclaimer published jointly by the Dental College and the University was not because of the facts, but they disclaimed the authorship of its appearance in the public press. The University authorized its publication in a research journal two years ago, but owing to the journal ceasing publication it was given to the regular dental press, from which the public press obtained the facts regarding the antiseptic properties of filling materials. The facts in reference to the practise of copper amalgam root filling came from neither the University nor the College, but no one who pretends to follow dental information at all in Canada could deny having heard of both the facts of the relative value of filling materials as antiseptics or the use of copper amalgam as a root filling.

What the University and the College both disclaimed is any knowledge of or responsibility for causing its appearance in the public press. The Dental College was wrongfully associated with the matter by an erroneous Associated Press report.

# Improper Advertising Prohibited in Ontario

During the past two or three years the Board of Directors of the College has been using every possible means of inducing members of the profession not to use unbecoming means of gaining a practise. Finally it was found necessary to proceed in the courts. Objectionable newspaper advertising was prohibited. Where it was persisted in the members' licenses were cancelled. An injunction was obtained restraining the Board's action and argued in the high court. And by its action it was made clear that the board was within its rights in cancelling the licenses of those who used improper advertisements in the press or otherwise. From now on dentists in Ontario may not use improper advertisements. The Board are the judges of what is improper advertising. A principle has been established.

For heavens sake, young man, manicure your nails yourself. Every time I go to get my hair cut it gives me the "Willies" when I see a *big stiff* getting his hands manicured. And the barbers tell me many a man carelessly tosses his last dollar to the frizzy headed, half-dressed blondine who has been holding his hand for the last half hour. Isn't that disgusting? —*Edmund Kells.*

The appeal of Dr. Davidson came before High Court on March 28th for improper conduct in a professional way. Decision was reserved.

# Notes

The only way to find success quickly without working for it is to look it up in the dictionary.

Dr. Osher, Toronto, had a fire in his office at 414 College Street, which destroyed most of his equipment.

The people of Kamloops, B.C., are discussing the pros and cons of the establishment of a dental clinic.

Dr. Harry S. Thompson addressed the Rotary Club, Ottawa, on matters of dental hygiene and the work of the Canadian Dental Hygiene Council.

A dental service has been organized in the Western Hospital, Toronto, under the general direction of Dr. Box, with Drs. Madill and Robb as clinitians.

The levy of $1,500 for school dental services at Saanich, B.C., was struck out by the School Board. The salary for the school dental nurse was retained.

Dr. C. L. Huffman, dentist, of Forest, Ontario, failed in his action to recover $2,818 from Mr George H. Ross, Toronto, who had severed his connection with the J. G. Beaty brokerage firm before it failed.

Every man casts two shadows: One, the shadow of the outward man, which you may see upon the sidewalk as he passes in the sun; the other the shadow of the inner man, the reflection of his accomplishments and his ideals.

The Kiwanis Club of Winnipeg gave to St. Boniface Hospital a complete dental equipment. Dr. Wilbert A. Weir will be in charge of the clinic. The presentation was made by Dr. F. T. Taylor, and responded to by Mayor Webb, L. D. Collins and Dr. T. E. Warriner.

Of late there have been two court decisions going against members of the dental profession in Ontario—not because of want of skill or care in the performance of the operation but because of want of care and good judgment in the after treatment. Too often dentists have thought their responsibility ended when the filling was made, the crown set, or the tooth extracted.

A delegation from the Child Welfare Society of Moncton, N.B., waited on the Board of Education to advocate greater care in the children's teeth. Since 1922 the children's teeth had been examined and a report sent to the parents but with not complete effects. They asked that the dentists of the city be permitted to care for those who could not afford dental services, in a room provided and equipped by the school board.

St. Thomas.—Dr. Glenn T. Mitton, president of the Elgin Dental Association, and Dr. C. B. Taylor, the secretary, presided at the meeting of the association at which the following resolution was drawn up: "That the Elgin Dental Association unanimously endorses the placing of the teaching of dentistry as a faculty in the Toronto University as set forth by circular letter sent out by the Royal College of Dental Surgeons."

Our sentiments govern our action not our sense.

Don't be too ready to take up with the new and untried thing.

Two essentials for social success—good manners and good English.

Dr. Neil Smith, Chatham, Ont., addressed the Rotary Club on dentistry March 26, 1925.

Our failures in dental practise are not due to acts of Providence but to lack of skill.

Many people think there are only two ways of doing anything—their way and the wrong way.

Well qualified dentists are not deceiving themselves and their patients by calling silicates porcelains.

Dr. W. G. Thompson urged the need of more dental clinics before the Board of Health of Hamilton, Ontario.

Dr. W. D. Moore, Chicago, gave a clinic to the members of the Academy of Dentistry, Hamilton, March 28, 1925.

Dentists of Alberta, British Columbia and Washington sent a hundred dollars to the relief fund for the storm victims in the Ohio valley.

Dr. Harry S. Thompson gave an address to the Kiwanis Club of Moose Jaw, March 25th, and to an assembly of women the following day.

Dr. H. A. Winkler and Dr. A. D. Smith, two young local dentists, have been placed in charge of a dental clinic recently placed at the Old Folks' Home on Cecil street.

## DECORATED

(*Montreal Daily Star, March 9th,* 1925)

Dr. E. Dubeau, ex-alderman, Dean of Faculty of Dental Surgery, University of Montreal, received notice from France on Saturday that he had been made a Knight of Legion of Honor. This is the third decoration Dr. Dubeau has received from France.

If someone who thinks copper amalgam exerts no antiseptic properties or will irritate vital tissues, or cannot be inserted into normal canals, or will not maintain an aseptic area about it in the presence of moisture, or will blacken the crown of a tooth, the apex of which is filled with copper amalgam, will do some experimenting on these matters over a period of five years and regularly submit progress reports to the profession for criticism during all that time, and take the guidance of a pathologist and scientist of the calibre of the late Prof. J. J. McKenzie, then it will be time to take note of what he says in these matters.

Dominion
Dental Journal

Vol. XXXVII TORONTO, JUNE, 1925 No. 6

# ORIGINAL COMMUNICATIONS

## Report of Case of Replantation of Two Teeth

GERALD FRANKLIN, D.D.S., McGILL UNIVERSITY, MONTREAL

Patient: M. J., age 12 years, was admitted to Dental Clinic of the Montreal General Hospital on the morning of Sept. 22, 1924, with the right upper central and lateral in his hand. These had been knocked out by a fall the previous afternoon.

The two teeth were thoroughly washed of all dirt, the peridental membrane being removed, and the teeth immersed in alcohol, and the patient dismissed.

The next morning the root canals were opened into from the lingual and cleaned and enlarged with acid. They were then filled with chloro-percha and gutta-percha. The apices were smoothed and polished off with sand-paper discs, thus shortening the teeth a little.

On the return of the patient (Sept. 23, 1924) bands were made of nickel silver (.004 x .18) for the two dislodged teeth as well as for right cuspid and left central. These were placed on the respective teeth. The loose teeth were then washed off and placed in warm sterile Ruiger's solution. The sockets of the teeth were curetted lightly for removal of clots, and washed with warm sterile Ruiger's and the two teeth inserted into place. A plaster impression of the four bands in place was taken and poured in a mixture of half investment and half plaster. When set the impression was separated from the model. A gold wire (1.89 B & S) was then soldered on the labial and lingual of the bands, thus uniting them into a fixed splint. This was polished and washed and cleaned with alcohol. The loose central and lateral were then cemented in their places in the splint.

The area was then anaesthetized by infiltration and the sockets washed out with Ruiger's. The splint with two teeth in place was washed with Ruiger's and fixed into place by means of cement on the two remaining bands.

After four weeks' time the splint was cut into pieces and removed. The teeth were found very firm. The patient was seen last in March and reported that he had full use and comfort of teeth which were firmly set in place. The gingivae were in good condition.

This case is reported because of the satisfactory result obtained even after the teeth had been out of the mouth for almost 48 hours.

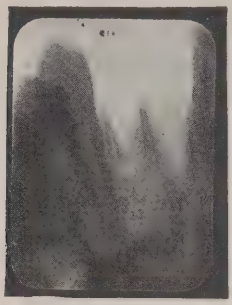

Fig. 1.—Radiograph of sockets taken when the patient was first seen.

Fig. 2.—Radiograph taken the day after the splint was inserted. The area at the apex of the lateral was due to the shortening of the root and the tooth not going fully to place.

Fig. 3.—Radiograph taken February 10th, 1925.

Fig. 4.—Radiograph taken March 10th, 1925.

# Pain Elimination

B. M. Ott, D.D.S., Toronto

Read before the 19 Study Club.

While operative procedures may be accomplished without local pain appreciation, the personal equation cannot be overlooked especially in the care of nervous patients. Nationality, temperament, sex, and the general constitutional equilibrium all contribute to the intolerance of dental operations in general, while in particular instances such factors as recent recovery from protracted illness, pregnancy, menstruation, menopause, lowered resistance, fatigue, susceptibility to weather changes and many others contribute towards the variations in pain. The fear patients have towards dental operations upon the mouth is deeply rooted, and almost instinctive with certain individuals, due no doubt to a heritage from the days when the teeth were extracted without anesthesia; and in the absence of other methods of control besides local anesthesia, probably will take a long time to abolish, as it took a long time to produce.

In cavity preparation one must avoid too sudden an action, gradually let the drill take hold of the work at hand, giving the patient a chance to prepare, this is necessary in all operations where there is likely to be pain. Too frequent stimulation must also be avoided, and can be often judged by watching the patient. Changing from one procedure to another in the same operation is often advisable with some patients.

Dull instruments cause an undue amount of pain at each attempt to cut, whereas when sharp both pain and effort are lessened with a saving of time to the operator.

Many instances small cavities will be found to be more sensitive than deep seated cavities, this is due to the most sensitive part being at the junction of the dentine with the enamel or cementum, more care must be taken in the earlier stages of the preparation until deeper denture has been reached. In large cavities the pulp is often in question and it is often advisable rather than risk an exposure to leave some of the softened dentine, and protect the pulp similar to a true exposure. After sufficient time has elapsed to indicate good results a permanent filling may be put in. With this procedure the patient has been relieved of much pain, the operator of considerable worry.

Previous to treatment with arsenic where patient has suffered pain indicating considerable inflammation of the pulp, a medication should be sealed in for a few days, for the inflammation to subside. By this delay pain is avoided. Great care should be taken to avoid pressure in sealing in arsenic treatment. With some pulps it may be necessary to resort to infiltration or block anesthesia, this is best administered in the morning or early afternoon, owing to fatigue of the patient, administration later in the day would be painful, and results poor. In pressure anesthesia use gentle pressure at first and gradually increase, rapid and heavy pressure at first produces great pain.

After pain from removal of the pulp may be avoided by pumping phenol into the canals until the nerve stump is bathed, this also coagulates the mouth of the dental tubules sealing them to agents which may cause discoloration.

Post extraction pain is a problem which practitioners have always to contend with. A patient usually judges the operator by his skill in extraction, but while the latter may have been painless, an adverse judgment may later be registered when post-extraction pain sets in. The operator should always prepare the patient for the possibility of after pain, the psychological effect of the expected can always be more easily tolerated, than if no preparation is made. In many cases unfavorable conditions are to be found in the teeth or the surrounding area, in such conditions, pain is almost sure to follow extraction, and it is advisable to give a prescription for tablets for relief of pain.

It is also true that the operator is likewise of importance in so far as his personality and demeanor largely influence the patient. Long hours of labor do not mean a fat pocketbook. Too close attention to business will warp you mentally and physically, rest and recreation are necessary. Vacations are necessary even if they do cost money, when you return home your viewpoint will have improved. Someone has said "Man does not die, he kills himself."

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# Dental Diagnosis

A. E. Webster, L.D.S., M.D.S., M.D.

**Read before the Brant County, Ontario, Dental Society, December, 1924.**

In the diagnosis of disease about the jaws, a primary consideration must be kept in mind, viz., is the pathological condition of local or general origin? Are the constitutional symptoms present from the oral disease or only associated with it. The discovery of some pathological state of the gum margins or the alveolar process of the jaw is not sufficient evidence in itself to conclude that the patient's health is suffering therefrom. It must be admitted that bodily ill health may have its origin in oral disease, but care must be exercised in determining which, if any, of the symptoms have their origin in a disease of the mouth.

The majority of remote affections which proceed from diseases of the jaws and mouth belong to the category of chronic septic infections which are commonly of strepto-coccal invasion which are frequently found in infections of the sinuses of the face and head, the tonsil, the gall bladder, the intestines and the genito-urinal tract. Oral sepsis may exist coincidentally with any of these diseases and may act as a predisposing and aggravating or exciting cause. It must be borne in mind that many general diseases have distinctive manifestations in the mouth.

Unfortunately for dentistry and those seeking the services of dentists, there has not yet been developed any acceptable systematic procedure in making a dental diagnosis. Dentists have in the past been able to deter-

mine by observation all that was needed for treatment. If a tooth pained, it could be removed, and if a cavity occurred in a tooth, it could be filled, and if a space appeared from the loss of one or more teeth, the space could be occupied by an artificial appliance. But since the advent of a more careful study of the prevention of dental diseases and the relationship existing between local infections and general diseases, it becomes more important to determine what teeth are diseased and what remote affections may have their origin in the mouth and, on the other hand, what affections in the mouth may have their origin elsewhere.

The dentist has two distinct problems before him in making a diagnosis. The local findings and the general manifestations of disease. These require different methods of approach, treatment and record. There is no very distinct advantage in having a general history and medical record of a patient who requires an amalgam filling or a denture. What such an examination would reveal would rarely change the method of treatment. If it could be shown that dental caries and diseases of the periodontal membrane were systemic in origin and might in such cases be amenable to general treatment, then a general medical history would be desirable in all cases. On the other hand, if a patient is suffering from some general disease which may have its origin in the mouth or may cause a mouth affection, then a general medical examination must be made. The extent of the examination and the accuracy of the record of the findings should be determined by the necessities in each case.

Patients who require a complete medical examination should have a complete dental examination as well. Such patients may first consult the dentist or the physician, but, in any case, the dentist must report his findings to the physician and the physician must report his findings to the dentist, or better still, after each has made his examination there might be a consultation in the presence of the patient. It is generally unwise for a dentist to give a patient instructions to consult a physician about his general health, or for a physician to give him instruction to consult a dentist, because most people who carry messages fail to give a correct impression of what was wanted. Too often both physicians and dentists are inclined to give the other instructions about their own affairs through a third party. The patient should carry with him a note explaining what he suffers from and what the dentist should examine for. And, on the other hand, the patient should take with him from the dentist what was suspected and what he especially wanted examined into. A telephone communication between the physician and dentist is often of distinct advantage to the patient. In the interests of the patient the physician must know enough about the mouth and teeth to say whether they are in normal health or not, and the dentist must know enough about general diseases that may have their origin in the mouth to recognize the need for sending them for careful medical examination. When dentists begin to play at medicine and physicians begin to play at dentistry, patients suffer.

Before touching on the details of making a dental examination, permit me to speak of a few generalities arrived at after some years of clinical experience and practice. First of all, the consultant must get a clear idea from the patient, his guardian or friends, of the reason for the visit. Why has he consulted the dentist or physician? What does he want and what does he expect? This is the beginning, the middle and the end, never to be forgotten. Often the consultant forgets this, but the patient rarely does. How often a patient consults a dentist to have a filling inserted in a front

tooth and the dentist thinks he has persuaded him that it is more important to have a posterior tooth attended first and dismisses him to have the work done another day, but he never comes back. I have heard splendid advice given to deaf ears. Every physician has given good advice, but it was not always heeded because it was too far beyond the conception of the patient. Begin where the patient is and lead him as rapidly as you may to where you want him, but don't forget why he consulted you.

Generally speaking, it is well to let a patient tell his own story which will help to throw some light on his mental processes as well as his complaint. At a certain point a few pertinent questions may clear away some ambiguity and serve to give direction to the patient's story. All the while, very acute observations are being made as to the patient's posture, muscular movements and actions of the eyes, mouth and hands. The consultant is to think broadly of the significance of each part of the story, avoiding any positive conclusions until such objective symptoms are made out that give a lead to a few questions. Questions which lead to an answer of yes or no indicate a direction of possible discovery of the diagnosis.

There are two general methods of weighing evidence in making a diagnosis. One is to listen to all the history and directly come to a conclusion, and the other is to think of all the diseases it might possibly be and then arrive at the most likely one by a process of exclusion, afterwards definitely substantiate it.

Many patients are often quite as keen as the consultant in matters of attention, logic and deduction, so it becomes important to avoid asking the same question more than once, and especially not to ask the patient's name or address two or three times. Blunt and embarrassing questions or questions the answers to which are obvious, often put the patient's mind in opposition. Instead of gaining in the patient's confidence by devining what he alone thought he knew, the consultant loses by asking aimless, irrelevant and sometimes stupid questions. Questions which indicate that the consultant can foretell what the patient's symptoms were, have a wonderful effect on his mind. When a confidential relationship has been established, there is less likelihood of the patient withholding information that is sometimes essential to a diagnosis. If a truthful answer is not forthcoming from a patient, it is far better not to have asked the question, "Lead us not into temptation."

It is often difficult to determine just why some patients consult a physician or dentist. They come with a diagnosis of their own and a full set of symptoms to corroborate their diagnosis. Before the consultation is over, the consultant is subjected to a line of questioning and suggestion of treatment which is embarrassing. No good ever comes to such patients because they really want to make their own diagnosis, prescribe their own treatment and get the physician's concurrence. The consultant must direct the consultation and control the treatment or have nothing to do with the case. Any other course leads nowhere except to humiliation and disappointment. Such patients have the consultation "craze, doctoritis or hospitalitis," if you please.

Sometimes patients will go the rounds to find if someone will help them in their belief that they have been maltreated. The specialist has much of this to contend with, so he must be on guard at all times, to say little about former treatments and show interest only in present complaints.

The experienced diagnostician is exceedingly cautious in expressing views or giving his opinions or predictions. Experience has taught him that things are not always as they seem at first sight. The less the untrained mind knows about a subject, the more positive it is in its opinions. Only the youthful and the inexperienced are really positive about anything. Over ten years ago a rather youthful consultant made a positive diagnosis carcinoma of the Antrum of Highmore. The patient still lives without any signs of the disease today. It was heartless to tell such a patient that he had a cancer, if it were true, and still worse to have him worried for months when it was not true. It should be the consultant's business to allay suspicion and promote happiness among his patients.

As previously indicated it is the essayist's opinion that a medical examination is not necessary for ordinary dental operations. In the great majority of cases a dental examination is all that is necessary, as usually is the case in consulting the physician, a medical examination fills every requirement. But, of course, there are a number of people consulting both dentists and physicians who need both examinations or a complete examination.

A routine dental examination involves: name, age, sex, family and personal dental history, present complaint or requirements.

### Filling Out a Dental Chart Showing Operations Required.

*Equipment for Routine Dental Examination*

Chair
Cabinet
Bracket Table
Sterilizer, wet and dry.
Compressed Air.
Hand mirror.
Faradic current, or electric pulp tester, electric mouth lamp.
Transillumination, X-ray machine.
Hot and cold water, ice or ethel chloride.
Gutta percha cone, percussion instrument.

*Instruments*

Mouth, mirror, tongue depressor, explorers, probes for following sinuses, water syringe, floss silk, separator, gas flame.

*Examination of the Patient*

General impressions, age, sex, general intelligence, occupation, personal care and general care of health.

*Mouth*

Deformities, traumatisms, abnormalities, size, elasticity of tissues, general physiological or pathological state.

*Mucous Membrane*

General color, uniformity, reactions to irritants, swellings, growths, foreign bodies, sinuses.

*Saliva*

Viscid, limpid, abundant, scanty.

*Teeth*

General appearance of color, size, form, number present, number lost, non-erupted or suppressed, irregularities, breathing, care of teeth, power of mastication, occlusion, amount of dentistry done and the success of it, fillings, crowns, bridges, dentures, abrasions, erosions, attrition.

*Cavities of decay*

Have some uniform plan.

1. All surfaces of each tooth beginning at the upper right, third molar.
2. Same surface of each tooth beginning at the upper right, third molar.

Note size, color and location of cavities, vitality or non-vitality of dental pulps.

*Periodontal Tissues*

Loose or tight teeth, sore and inflamed gingivae or interstitial inflammation, swellings over apical region, sinuses.

*Local Irritants*

Deposits, fillings, crowns, bridges, dentures, food wedging, tooth picks, tooth brushes, orthodontia bands, drugs.

*General Irritants*

Pregnancy, syphilis, diabetes, Bright's, Diet, trench mouth, arsenic, lead, potassium iodid, phosphorus, gonorrhea.

It is the combined examination and diagnosis which must be made by collaboration and consultation between the dentist and the physician that we wish to present just now, where the work of the two professions joins hands in the patient's interest. Too often in the past the dentist didn't know that the diseases he was dealing with from day to day might be the cause of grave systemic affections and the physician didn't know that the mouth and teeth were the seat of strepto-coccal and other infections. When the two professions came together to study focal infections, there was a marked change in both medical and dental practice. The history of the change of methods of practice is interesting. Dentists knew for years that infections of the teeth influenced the general health in many cases, but the medical profession was slow to accept, but when Hunter made his notable observations public, both professions vied with each other in recommending the extraction of teeth until this practice has become a professional disgrace. Almost every disease from alopesia to house-maid's knee has been attributed to bad teeth. Teeth should not be removed on suspicion only; they should be known to be the cause of some malady before they are removed. The extraction of teeth on speculation should be a thing of the past.

Modern methods of diagnosis rather discount the methods of the past. The art of taking a complete and relevant history, and making accurate observations have not been developed in recent years because of the application of so many technical devices for helping in making a diagnosis. It is too often forgotten that it takes brains in the final analysis to interpret the findings of diagnostic appliances. By the history alone many dental complaints can be diagnosed. Inspection, palpitation and percussion all add their quota of facts. The dental diagnostician will look for deformities, traumatisms, infections of the pulp, the periodontal membrane, the bones of the jaws and the soft tissues of the mouth.

Following the taking of the dental history and sometimes accompanying it, is made an inspection of the mouth and teeth. By palpitation with the ball of the index finger, the regularity or otherwise of the foundational bony structure can be made out. Heavy pressure over diseased apices will often elicit expressions of pain. A milking pressure from apex to gingivae, especially between the teeth, will express pus or blood, the quantity of which will give a rather definite notion of the depth of the pockets around the tooth root. Finger pressure on the crown in a direct line with the long axis of the tooth which causes pain, indicates apical disturbance, while pressure laterally indicates disturbance on the opposite side of the tooth; e.g., if pressure on the buccal side of an upper molar causes pain, it is an indication of irritation of the lingual root. Percussion of the teeth is done for two reasons: first, to elicit pain from the shock of the blow to the tooth, second. to determine if the note produced by the blow is dull or ringing in character. If the note is dull, the tooth is diseased; if ringing, it is normal. The writer's experience is that blows upon a sore tooth which are heavy enough to produce such sounds are too heavy for the patient's comfort.

The dentist in his regular practice has to deal with diseases and affections of the hard structures of the teeth, the dental pulp, the periodontal membrane, its contiguous tissues, the soft tissues of the mouth, and the remote or focal infections of dental origin, as well as affections of systemic origin, having local mouth manifestations. None of these can be separated from the general functions of the body nor can any marked derangement of one or more of them exist without influencing, in some manner, all others. Hence what sometimes seems to be a simple local affection is in reality having marked general or systemic manifestations. For this reason physicians send patients to dentists to find out if there is anything amiss in the mouth which might be the cause of the systemic or contiguous affection. The most common conditions suspected to be of tooth origin are enlarged glands about the neck. Acute inflammatory swellings about the jaws and face, marked eye symptoms, epileptiform seizures, chorea, certain mental disturbances, rheumatism, anaemias, hypertention, heart affections, alimentary infections, cancer, neuralgias. These and all other disturbances of dental origin can be classified into direct nerve irritations and acute and chronic infections.

Direct nerve irritations are exemplified in traumatisms of the nerves of the teeth. These are chiefly found in vital pulps and impacted teeth.

The other group are found at the root ends of teeth whose pulps have diet and become infected. These infections are practically always streptococcal and the source of systemic disease. The local gingival infections are less likely to cause systemic disease and yet Hunter believes pernicious anaemia comes from an unclean mouth.

There is a general belief that teeth with vital pulps cannot be the origin of infections. Based upon this view it becomes of prime importance to determine whether a pulp is alive or dead. To the inexperienced this seems to be a simple routine and yet in a few cases the symptoms are very perplexing. There is such a wide range of sensations or lack of sensations within the normal, that many of the apparatuses for testing pulps do not give constant results.

The condition of the pulp may be determined by:—

1. Family history.
2. Personal history.
3. Dental history—shock, blows, pains, swellings, sinuses, operations.

4. Age and Sex.
5. Pain—
   When it occurs,
   Duration,
   Character of, location,
   Subconscious.
6. Color.
7. Reaction to thermal changes.
8. Number and size of fillings—Crowns.
9. Reaction to electric current.
10. Sensation to cutting dentine.
11. The presence of a root canal filling as determined by an X-ray picture.

The condition of the periodontal membrane may be determined by:—

1. Family history.
2. Personal history.
3. Dental history.
4. Age and Sex.
5. Vitality or non-vitality of the pulp.
6. Power of mastication.
7. Color of the teeth.
8. Reaction of the tissues to injury.
9. Mobility or non-mobility of the teeth.
10. Reaction to light and heavy percussion.
11. Normal or malocclusion.
12. Length of time the pulp is dead.
13. At what age the pulp died.
14. If the tooth has been the seat of acute inflammatory attacks.
15. The state of the overlying soft tissues.
16. Inflammatory enlargements of bone over root apices.
17. The amount of peridental attachment remaining.
18. State of the tissues as revealed by X-ray photographs.

## Those Wasting Diseases of Middle Life

The ones that concern us most of all are diseases of the heart, chronic heart disease, chronic Bright's disease or disease of the kidneys, and premature hardening of the arteries. The causes of these diseases are numerous. Fortunately, the advance in the field of preventive medicine has revealed in recent years the fact that the very foundation for these diseases, in the vast majority of cases, is laid in early childhood and is due to the toxic influences of the various communicable diseases. We have known for many years that anyone who has had a severe attack of inflammatory rheumatism or rheumatic fever was very likely to have, later on, a diseased condition of the valves or muscles of the heart. The same is true of the two first cousins of rheumatism, that is, chorea and tonsilitis. They are also not infrequently followed by lesions in the heart. But it is only of comparatively recent years that the medical profession has learned that practically all of the communicable diseases peculiar to early life are likely

to involve either the lining membrane of the heart or the covering of the heart or the muscle of the heart itself, and lay the foundation for some serious condition later on in life.

Another frequent cause of these diseases later in life is that known as focal infection, or infection conveyed to these organs from some other part of the body. For instance, chronically diseased tonsils, pyorrhea, suppurating conditions about the teeth and gums, abscesses at the roots of the teeth, the various sinuses in the head leading up from the air passages, all afford harbors for the pathogenic germs which cause these diseases, and which at some time are likely to gain access to the circulation and be conveyed to the heart, or affect the blood vessels, or even the kidneys, by throwing extra responsibility upon them.

# Report on Dental Education in America

By Prof. W. J. Gies, Carnegie Foundation

(Continued from Page 156)

## E. Primary Educational Needs of Dentistry as an Equivalent of an Oral Specialty of the Practice of Medicine

Development of the art of dentistry into the equivalent of an oral specialty of the practice of medicine would require a more comprehensive definition of dentistry, corresponding extension of the scope of dental health service, and commensurate improvement of dental education. Extended as it should be in biological scope and strengthened in all its health-service aspects, dentistry, then a learned profession, would be devoted, in broad terms,

(*a*) to establishment of the principles, and

(*b*) to application of all forms and degrees, of scientific health service relating directly to the teeth and the closely adjacent oral tissues, and, indirectly through such service, to the welfare of other parts of the system and of the body as a whole;

(*c*) to establishment of the principles of correlation between dental or oral conditions and systemic diseases, with particular reference to observed effects of the latter on the teeth and the closely adjacent oral tissues;

(*d*) to detection, and provisional diagnosis, of dental or oral symptoms that indicate the prevalence or imply the probable existence of ill-health elsewhere in the body; and

(*e*) to suitable, supplemental, advisory health service, including consultation with the patient's physician, based on such observations (*c*) and diagnoses (*d*).

In this view of an enlarged dentistry, its practitioners would be trained to give the service not only of dental surgeons and dental engineers as at present, but of oral sanitarians and oral physicians as well; and, instead of seeing only the teeth and mouth of a patient, as is now usually the case in a restricted view of their responsibilities, dentists would also suitably enquire into and keep careful records of the state of the patient's health, particularly as it affects or is affected by conditions of the teeth

and mouth; would plan their operations to meet not only the local requirements but also the possibilities of systemic consequences as well; would also recognize and note the significance of all outstanding symptoms of disease, and would warn or advise the patient accordingly, or explain his need for a physician's attention; and could effectively discuss, with a physician, the oral condition of the patient in relation to his general welfare. The frequency with which dentists are, and will continue to be, consulted for oral health service gives to dentists particular opportunity and occasion to note not only the occurrence of oral and systemic diseases, but also the existence of correlations between them, and to help or guide patients accordingly.

The type of training afforded by most of the dental schools does not promise to make the practice of dentistry the health-service equivalent of an oral specialty of the practice of medicine, and important improvements in dental education are required generally for attainment of that objective. Appreciation by dental teachers of the necessity for thorough instruction in the mechanical aspects of the practice of dentistry has seldom been accompanied by due comprehension of the need for intimate understanding of the pathological involvements and of the health-service relationships of such practice. Instruction of dental students in the medical sciences, in most dental schools, has consequently been unwisely directed, indifferently given, and poorly assimilated; and the practice of dentistry has failed, from lack of knowledge, ability, and vision, to measure up to its opportunity to be the health-service equivalent of an oral specialty of the practice of medicine. Dentistry is based on a degree of pre-professional education—graduation from a high school or its equivalent—that is too weak to sustain the mental load of effective training in the medical sciences, on which, with the mechanical sciences, the equivalent of an oral specialty of medicine must be based. If the pre-dental educational requirements were raised to equality with that of the pre-medical—at least two years of appropriate work in an academic college—the necessary medical sciences and their applications could be taught to dental students as effectively as to students of medicine; and, if they were, current universal disparagement of dentistry as a practice that is intellectually and professionally inferior to that of medicine, and the attendant embarrassment of progress for dentistry, would be deprived of the facts on which they are based.

To make the dental practitioner an expert in reparative and reconstructive procedures—a good dental mechanic, in short—has been the paramount purpose of dental education, which has been primarily manual training. In the attainment of this important aim, a preliminary general education has been mistakenly regarded by dental leadership, with notable exceptions, as a subordinate qualification, which, while perhaps theoretically desirable, was practically unnecessary and apt, from the length of time required for its acquisition, to delay the beginning of dental study until a period in the age of the student when his capacity for active development in manual dexterity had become impaired or lost. Immaturity and ignorance, with hypothetically superior neuromuscular adaptability to digital training, have been preferred to relative maturity and wisdom, with greater degrees of understanding and capacity.

Owing to the prevalence of such distorted views, which have been a heritage from the days when dentistry was a mechanical trade, only twenty-two of the forty-three dental schools in this country required work in an academic college for admission in September, 1924, at least one year of such work having been first exacted effectually by fourteen schools in

1921, under the leadership of the Dental Faculties Association of American Universities. Very few practising dentists in the United States have been students in an academic college. Practically all of the graduates of dental schools in this country, including those of 1924, have been trained in institutions where the professional curricula were based on academic requirements ranging from nominal "possession of a good English education" to graduation from a high school. In 1925, however, all the graduates for that year from seventeen dental schools in this country, and, by 1928, the graduates of a majority of the schools, will have had at least one year of preliminary education in an academic college. This requirement for admission will be exacted by all Class A dental schools, beginning in 1926; but it is possible that those of the Class B schools that may continue, after 1926, on a lower educational foundation, will have a majority of the whole number of dental students in this country, and that most of the graduates in dentistry for several years after 1920 will not have had the advantages of any portion of an academic college education.*

Medical education in this country has been based almost universally, since 1918, on an entrance requirement of at least two years of work in an academic college, including prescribed subjects of study, following graduation from a four-year high school. From present indications, it may safely be assumed that this pre-medical requirement will never be reduced in length. All of the reasons for the adoption and retention by medicine of this minimal pre-professional requirement, after a four-year trial of a requirement of one year of work in an academic college, apply with equal force to early adoption of a two-year minimal requirement for dentistry as the oral division of health service. There is an additional reason: medicine, having tried the two-year requirement, retains it because it has been found to be essential for all classes of practitioners of medicine. Since that degree of preliminary education is concededly desirable for such medical specialties as oto-laryngology, rhinology, ophthalmology, and dermatology, it must be equally desirable for dentistry as an analogous mode of health service.

The foregoing views may be summarized in the general statement that dentistry is a highly mechanical division of the healing art, which has been closely organized independently of medicine; and, although not an accredited specialty of the latter, it is a division of health service, and should be extended in scope and improved sufficiently to make it equivalent to an oral specialty of the practice of medicine, either independently of medicine or as an accredited part of it. Among the important improvements that such expansion and betterment will require, are deeper appreciation among dentists and physicians of the health-service function of dentistry; more effective teaching of, and education in, the medical sciences and their application both to prevention and to treatment; and a degree of preliminary education that would be equal to the minimum required for medicine.

Full attainment by dentistry of the character of an oral specialty of medicine appears to depend, also, upon general reorganization of the system of dental education on the basis of such readjustments and additions as these, which several of the best schools closely approximate in important respects:

(*a*) Requirement of at least two years of suitable pre-professional work in an academic college, including several courses that would stimulate

* At a meeting in November, 1924, the Dental Educational Council voted to include a year of work in an academic college, for admission, among the minimum requirements for its Class A or Class B rating of dental schools, beginning in September, 1926, thus making it certain that by 1930 practically all graduates in dentistry will have had at least one year of education in an academic college.

interest and develop ability in, or reveal ineptitude for, the prospective practice of dentistry.

(*b*) Reorganization of the undergraduate curriculum in dentistry into three academic years instead of four, each lengthened, if necessary, to make that curriculum particularly effective for intensive and adapted training in the medical sciences, dental technology, clinical dentistry, and oral medicine, in preparation for the safe initiation, by the graduate, of competent *general* practice of dentistry. In this curriculum, the courses should be equal in quality to, and as far as possible interchangeable with, those in the corresponding subjects in the undergraduate curriculum in medicine; the degree of B.S. to be awarded at the end of the second dental year, or B.A. to students who completed three years of work in an academic college before admission; and the professional degree, on graduation, to be that required for admission to the license examinations, which at present is D.D.S. or D.M.D.

(*c*) Addition of *elective,* full-year, graduate curricula, based on the three-year undergraduate curriculum and conducted on a high plane of scholastic quality, for the systematic and intensive training of all types of dental specialists, teachers, and investigators, with award of commensurate degrees, including M.A. or M.S. after at least one year of successful advanced work; and Ph.D. after at least two more years of such study and attainment in research.

(*d*) Establishment of combined dental and medical curricula, with suitable dispensary and hospital facilities, for united medical and dental training of specialists in oral surgery, public-health service, medico-dental research, and other fields on the border lines between dentistry and medicine, with award of academic and professional degrees in accord with the types of study concluded and the achievement therein.

(*e*) Provision of extension courses for practitioners, and of curricula for the proper training of oral hygienists and dental technicians.

(*f*) Active promotion of research, now almost non-existent in the schools of dentistry.

(*g*) Development of adequate library facilities, now conspicuously absent from most dental schools.

(*h*) Discontinuance of all independent dental schools or their conversion into schools for dental assistants, unless they should be sufficiently endowed, suitably affiliated, and properly equipped to promote satisfactorily the teaching of modern dentistry, which cannot now be claimed for them.

(*i*) Creation of additional dental schools in close affiliation with or as departments of schools of medicine in universities.

Such advanced conditions could not be established without increased financial support of dental education; but with adequate available resources the proposed improvements could and would be promptly effected by all of the important dental schools in this country and in Canada. A dental school cannot grow into the highest degree of educational quality, or into the greatest measure of humanitarian serviceability, from a financial soil consisting solely of the fees paid by students and patients, as is now expected of most of the schools. Although dentistry is a mode of universal health service, the public has done little to advance it. Endowments for the effective maintenance of the best schools of dentistry, and for cumulative improvement of their work, are urgently needed in the public interest. In this important respect dental education is identical with medical education; but, hitherto, in an era notable for the generous financial support deservedly accorded to medicine, the similar needs of dental health service have been almost wholly ignored.

### F. Important Recent Advances in the General Status of Dental Education

The Regents of the University of Michigan and the Trustees of Marquette University have authorized their dental schools to require a minimum of two years of work in an academic college for admission, as soon as proper arrangements can be made; also to shorten the undergraduate curriculum to three years, and to establish full-year graduate curricula. Marquette instituted full-year graduate curricula at the opening of the present academic year, and will establish the new undergraduate curriculum in 1925. The dental schools of the University of Buffalo and McGill University have joined those of Columbia University and the University of Montreal in requiring at least two years of work in an academic college for admission. In 1926, the dental schools of the University of Minnesota, Washington University, and the New York College of Dentistry, will exact the same degree of preliminary education. The minimum requirement in pre-professional study for the practice of dentistry in the Province of Quebec is now two years of work in an academic college; it will be the same in the State of New York after January 1, 1926. In 1915, the work of the School of Medicine and Dentistry of the University of Rochester will be initiated on a minimum of three years of pre-professional work in an academic college.

The dental schools of the Universities of Cincinnati, Louisville, and Tennessee, and of Meharry Medical College, now require one year of work in an academic college for admission; in 1925, Cincinnati College of Dental Surgery, and the schools in Baylor, Georgetown, Temple, and Tulane Universities and in the University of Pittsburgh, all now on a high school foundation, will begin to require it; in 1926, it will be one of the Dental Educational Council's minimum requirements for a Class A rating. Each of the five dental schools in Canada is now on that basis, or requires two years.

Of the twenty-three Class A dental schools in the United States, fourteen now require at least one year of work in an academic college for admission; and of the twenty Class B, Class C, and unclassified schools, eight exact that minimum degree of pre-dental education.

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One morning, in his declining years, a dear friend and former Secretary of State, Henry Clay, called on John Quincy Adams. He was then over eighty years of age and suffering from an attack of paralysis. Clay approached him with the usual friendly and cheerful greeting, "Well, how is John Quincy Adams today?" The reply was, "John Quincy Adams is very well, thank you, but this old building which he has been occupying for over eighty years is all tumbling to pieces. I have been in communication with the architect and builders, and I am advised that it can no longer be repaired, that any further attempt at repairing is useless. Therefore John Quincy may have to move out almost any time." A sound mind in a sound body.

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Of all the good books published on dentistry during the past few years, none seems to be so attractive as that just issued by the Dental Digest, written by George Wood Clapp, on the life and work of J. Leon Williams. It is readable, interesting and instructive.

# Societies

## Golden Jubilee in Dental Practice of Dr. George O. Hannah, St. John, N.B.

The annual meeting of the St. John Dental Society, held on April 14th at the Riverside Golf and Country Club, took the form of a banquet in honor of Dr. George O. Hannah. A silver tray with appropriate inscription was presented to the guest of the evening.

Dr. Percy L. Bonnell, president of the Society, requested Dr. Frank A. Godsoe to act as toastmaster. In felicitous terms Dr. Godsoe explained the object of the gathering and complimented Dr. Hannah on his distinction. He then called on Dr. J. M. Magee to make the presentation. Dr. Magee on rising expressed his thanks to the committee for having given him the post of honor which he considered a great privilege. Continuing, he said:

It is an uncommon thing and not given to many to enjoy active practice in the dental profession for fifty years, and it is still less common to find in any profession after that period of endeavor one so youthful and active as our good friend is.

During a sermon I heard some time ago the preacher remarked that it is an easy thing to reverence a good man or a good woman. Our guest is a good citizen. At one time he was a good curler, and that in itself is almost enough to guarantee good citizenship. He has been a consistent Christian, whose character is without flaw or stigma. He is a good dentist whose reputation for integrity and skill defies detraction.

When I started practice in St. John in 1883 Dr. Hannah had an enviable reputation for neatness, cleanliness, address, personal attractiveness, and skill, which inspired me to try to imitate him, successfully I hope, in some slight degree.

These attributes are necessary for the making of a good dentist and yet his cultivation of them had very little mercenary motive behind them, further than that he should be successful enough to become an ornament to his profession. There has always been about him an air of daintiness, if I may be pardoned for the use of an expression usually applied to womankind, that appealed to the refined public.

It should be the aim of every man to leave the world just a little better for his having lived in it, and we can assure our guest that his influence, unassumingly exerted, has left something for each of us to emulate.

No man can live unto himself, and though owing to his innate modesty Dr. Hannah shrinks from even so slightly public a demonstration as this, he wisely recognizes that in his present position as dean of the Dental profession in St. John, he gracefully bows to the desire of his confreres met thus to do him homage.

I am not an orator and will not weary you with an attempt to parade a lot of platitudes, meaningless except to consume time.

I am simply saying what I feel as briefly as I know how, and this I feel sure you will all subscribe to.

We are proud of his friendship, and esteem it a privilege to meet him to-night on this auspicious occasion.

GEO. O. HANNAH, D.D.S., L.D.S., St. John, N.B.

Doctor Hannah:

In the hope that we may live to see you commemorate your seventieth anniversary, which from your present virile appearance seems highly probable, and that with Mrs. Hannah and your family you be long spared to enjoy health, happiness and prosperity, on behalf of your fellow practitioners in St. John I ask you to accept this slight token of our friendship, esteem and good will.

The inscription on the tray reads:

GEO. O. HANNAH, D.D.S.,
From
His professional confreres
Commemorating
Fifty years practice
Saint John, N. B.
1875—1925

The recipient was acclaimed with hearty applause. He modestly disclaimed the right to accept the kind and flattering words just spoken. He did however accept the gift with a grateful recognition of the honor conferred, and would treasure it with happy recollections as long as he lived. For the glamor of the limelight he never did care, being better satisfied to do "the daily round and common task." He then went on to

say how the younger members of the profession were blessed: comparing present day educational advantages with those of fifty years ago.

He knew, however, that there was one feature of the system of education in the early days which proved advantageous to him. That was the fact that his first year of study was under a preceptor, with whom he learned how the office was conducted and who instilled into his mind so many valuable ideas.

"If he is a good preceptor," he said, the student was much better equipped for conducting a professional practice, than present day graduates who never have one. Reminiscences in which he described conditions and situations in the days of his early professional career were most interesting. He has been in his present office for forty-nine years, having moved in just about a month before the date on which every other practitioner in the city was burned out: the fateful 20th of June, 1877, when almost the entire city was fire swept.

He closed by saying for the benefit of the younger members of the fraternity that he believed the golden age is now about to arrive, and congratulated them on being so successfully educated and in that way equipped to take advantage of it.

Dr. W. P. Broderick said he echoed the sentiments already expressed and, jokingly commented on Providence being kind, inasmuch as it gave him a virtual monopoly of practice by having burned out every other dental office in town.

He concluded by saying that all present were sure that when he eventually laid aside his dental paraphernalia he will have the reflection that an appreciative clientele hold him in loving remembrance.

Dr. Hannah, so modest and unassuming that if you take him at his own estimate you will do him scant justice, was born in St. Stephen in 1852. He began the study of dentistry in the office of Dr. J. E. Grant of Calais, Me. Those who remember this man or who have ever examined any of his artistic restorations, can understand what exceptional opportunity it was for him to have such a tutor. Their relationship during the term of tutelage was so harmonious that one can very properly apply the well-known phrase, "Like master like man." Dr. Grant was an indefatigable operator and the young student had to measure paces with him.

Graduating from the Philadelphia Dental College, his first appearance in St. John was in an office on Germain Street, at that time a residential district much sought after by dental surgeons, among whom may be mentioned Drs. C. K. Fiske, Forster, J. C. and Canby Hathway, Cunningham Crosby, McAvenney and Campbell Fiske.

While he was a student the Goodyear patent for vulcanite was the cause of a good deal of bitter feeling. Every dentist who used vulcanite in those days had to procure a license or be subject to prosecution, and perhaps persecution. Goodyear, it appears, employed a man, by name Josiah Bacon, carrying the title of secretary-treasurer. Bacon apparently travelled from one end of the United States to the other, taking action against dental practitioners who used vulcanite without his license. Dr. Grant had felt the rigor of this man's accusations and confined his prosthetic practice to gold and silver dentures, a class of work which gave exceptional opportunity for experience in high grade Prosthesis. In 1881 becoming somewhat weary from overwork, he went to California to recuperate. While he was in San Francisco that city was the scene of the tragic culmination of Bacon's activities. A dentist named Chalfaret considered he was being

persecuted in being prosecuted and shot Bacon, killing him. Apparently the jury had much sympathy for Chalfaret, for he received a sentence of only a few years' imprisonment.

Chalfaret remained in prison for a short time, when he "happened to escape," and was never apprehended. This gruesome incident made a lasting impression on his mind because of Bacon's activities in Calais and naturally followed the matter up until with Chalfaret's demise the thread snapped.

Had he permitted himself to neglect his professional business he might have become well known in sports, for he liked shooting and fishing, and games such as curling, bowling, etc., but he found that to indulge in sport meant neglect of his profession, and his profession having the greater love won out.

After toasting the king and the guest of the evening, the gathering then proceeded to its business session.

The election of officers resulted as follows:

President—Dr. J. E. Edgcombe

Vice-President—Dr. A. J. Coughlan

Sec'y-Treasurer—Dr. Frank Boyaner

Additional members of the executive—Dr. I. K. Farrer, Dr. J. G. Leonard and Dr. W. S. Swetnam.

The retiring president, Dr. P. L. Bonnell, and retiring sec'y-treasurer, Dr. F. Gordon Sancton, who have been in power since 1919, and who felt that it was unfair to the society for them to longer retain office, refused renomination.

A vote of thanks was tendered Dr. Sancton for his unflagging interest and unfailing courtesy in connection with the services carried on in the Dental Clinic at the Health Centre by the members of the Saint John Dental Society.

Dr. Broderick in this connection, representing the Society on the Board of Governors of the Health Centre, gave a very gratifying report of the estimate in which the Board holds the Dental Clinic, its value to the community being considered of first importance.

## Executive of Dental Meeting Held in Winnipeg

The following executive committee was elected for the coming year: Dr. E. Doyle, Calgary, Alta.; Dr. Cameron, Swift Current, Sask.; Dr. P. W. Winthrope, Saskatoon, Sask., secretary-treasurer; Dr. M. H. Garvin and Dr. Manly Bowles of Winnipeg.

ST. JOHN, N.B., April 13th, 1925.

The forthcoming C. D. A. meeting, staged to be held at Halifax in 1926, is being looked forward to by our progressive New Brunswick practitioners with pleasurable anticipation.

As the C. D. A. cannot be a local function, certain duties can be carried out by practitioners in other provinces than Nova Scotia, though the burden will necessarily be borne chiefly by President Thomson's confreres in Halifax.

Halifax will be found one of the best centres in Canada for the convention, and New Brunswick dentists will support their Nova Scotia confreres in every way. Though many of us know Halifax fairly well there still is an untold wealth of historic places to be visited, and charming scenery, which no matter how many times we view it is ever fresh and satisfying.

For those who style themselves patriotic citizens the study of their own Dominion is a duty, the neglect of which is indefensible. While the Pacific Province is a lusty young giant, we promise every one west of New Brunswick an even better time than they had in Vancouver when they come to visit our stately old Halifax.

Naturally Saint John and Moncton will want you to visit them, and as you have to pass through both cities you will have difficulty in escaping our hospitality.

Some of the beauties of New Brunswick scenery will in part be realized by those from Montreal and beyond, who route their transportation via the "Transcontinental and Valley Railway." They will see scenery on the Saint John River unsurpassed (if even equalled) anywhere in the world, while at Saint John City they will be enabled to witness the phenomenon of a reversing rapids; twice a day water running up river and twice a day water running down river, a feature of nature known no where else in the world. Then at Moncton a stop-over will enable you to witness the "Bore," which is a mass of water, its size and volume dependent on the height of the Bay of Fundy tide at the time. This also is unknown anywhere else in the world except in China. We cannot promise to show you the tearing away from its moorings of a schooner unloading at a wharf (this has occurred and the vessel wrecked farther up the Petitcodiac River) but we can show you an unusual sight.

COME.

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## McGill Graduations

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Doctors of Dental Surgery: Thomas H. Johns, Victoria, B.C.; Archibald D. MacGregor, Edmonton; Elmer J. Hill, Moose Jaw; Francis Corin, Victoria, B.C.; Bert H. Robertson, Almonte, Ont.; Samuel H. Hardin, Kingman, Alta.; Wilfred M. Blair, Regina; Peter Henderson, Dundas, Ont.; Ellis Gatenby, North Bay, Ont.; Donald Macrae, Maxville, Ontario.

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Dr. W. T. Taylor presided at the Winnipeg Dental Banquet held at the Fort Garry, May 15th, 1925.

# Results of Examinations at Royal College of Dental Surgeons, Toronto

The results of the annual examinations in dentistry of the University of Toronto and the Royal College of Dental Surgeons of Ontario, including dental nurses, are announced.

The commencement exercises of the School of Dentistry of the Royal College of Dental Surgeons held in Convocation Hall on the evening of Friday, May 29, at 8.15 o'clock, when Dr. James Brebner, Registrar of the university, delivered the commencement address, and the candidates were awarded the title of Licentiate of Dental Surgery by the President of the board of the R.C.D.S. The degree in dentistry was conferred at the regular university convocation in Convocation Hall on the evening of Thursday, June 4.

### Fifth Year

The members of the graduating class (fifth year) who received the title, Licentiate of Dental Surgery, Province of Ontario, and the degree of Doctor of Dental Surgery, University of Toronto, are as follows:

Gordon Wesley Allan, William St. Claire Anderson, Willard Ferrier Armstrong, Weir Campbell Balmer, Archie John Barkley, George York Barnett, Manfred Paul Benger, Paul Lazier Bogart, Benjamin Lawrence Bolasny, James Wesley Boyd, Samuel Breslin, Alexander McLellan Campbell, James Murray Campbell, John Lindsay Chalmers, Robert Kingsley Clark, Cecil Irwin Coburn, Frederick Bremner Cooper, William Robert Cooper, Robert Frederick Hastings Croft, Ronald Reeve Crawford, Allen Howard Cupples, George Crompton Dart, Freemont Whitfield Doan, Herbert Theodore Fallaise, Robert Lester Falconer, Everett Joseph Fisher, William Ralph Foster, Donald Alan Fralick, Wilfred Hyland Gifford, Mac Orestes Good, Silas Edward Greenberg, Edward Empey Groff, Lloyd Murray Grose, Thomas James Hackett, Stanley Griffis Haight, Elgin George Hargreaves, Wilson Graham Harron, Dalton Clark Harvie, Elmer James Henderson, Arthur Edward Higgins, Gordon Bayne Howard, Louis Edmund Hubbell, Albert Edwin Hughes, Fred Fox Hughes, Joseph Clare Hurley, Joseph Harker Johnson, Victor Herbert Large, William John Lemay, Stephen Joseph Lesco, Daniel Ross Lethbridge, Edward Albert Linfoot, William Trevor Lockwood, William Joseph MacDonald, Bruce Crawford MacNeill, John Alexander Couch McDonald, William Taylor McIntosh, Osbert Myles Lasuage McLean, Norman Alexander McLeod, Ralph Dohner McNally, Gordon Davey McVicar, John Patrick Markinski, Harry Lloyd Martin, James Arnold Meek, Harvey Harkness Milburn, Barney Miller, William Roland Mills, Herbert Wilson Mitchell, Hugh Harold Munns, Donald Hugh Munro, John Alfred Nattress, Thomas Henry O'Connor, George Selby Paul, Henry Charles Peake, James Gestie Perkin, William Wesley Philp, Edward Dowd Ramsey, Lorne Edgar Riddolls, George Franklin Rogers, Samuel John Dean Rowley, Francis Harold Shepherd, George Wilfred Shepherd, Robert Fred Shuttleworth, Neil Carmichael Smith, Darrell Epworth Staton, Manley Roy Steen, Ralph Tynes Stick, Cecil Henry Clarence Summerfeldt, Otto Robert Thompson, Ottis Grover Truemner, Arthur Leonard Williams, Frederick Wood, Murray Campbell Wood, William Scott Young, Mark Zimmerman.

The following candidates will be awarded the degree of Doctor of Dental Surgery: William Henry Beischer, Samuel J. D. Rosenbaum, David Sugarman.

Results of examinations of other years:

### First Year

The following students have completed the first year. Where the name of the student is followed by a subject, a supplemental examination is required:

William Reid Aunger, Harry Everett Barker, Cecil John Baxendale, William Ellsworth Black, Edward Milner Box, Edward John Bramah (Physics), Arthur Cameron Brown, Ralph Nelles Brownlow, Russell R. Butler, Robert Knox Carter, John Gordon Chalmers, Cecil Edwin Chambers, John Albert Cummer, Roy Livingston Currie, Harold Joseph Dunn (Ethics, Physics), Nelson Evans, Charles McKeen Finlay, Raymond J. Fleming, Flemming Ambert Fraser, Alexander Allan Fyfe, Willard Paisley Gruer, George Methven Hawton (Physics), George Coultis Hind, Albert Henry Hudson, John Edwin Hudson, William James Spence Jackson, Gordon William Johnston, George Nelson McPhaden Johnson, Michael Vincent Joseph Keenan, George Kingman, Howard Raymond Konkle, Robert Samuel Langstroth, Robert Eustace Lee, Colin Alfred MacDonald, John Wilfred MacVicar, John Harold Maitland, Jack Allinson Marshall, Frank Joseph Masiello (Physics), William Model, Arthur Burrows Morrow, James Harvey Moyle, George Newman Murphy, John Edwin O'Brien (Physics), Lucas Clarke Perigoe, Marion Sarvis Priest, Allan John Quick, Alexander Haldane Reid, Franklin Merlin Roulston, Floyd M. Serena (Chemistry, Physics), Mildred Marguerite Spence (Physics), Shaw Cecil Stewart, Francis James Stodgell, John Milton Warren, George Archibald Watson, Selby Kavanagh Wetmore, Gerald William Whitaker Maurice Zackheim (Biology).

Alonzo Lorenzo Cook (required to repeat year), Leo James Stanton (permitted to write in fall upon examinations missed owing to illness).

### Second Year

Hugh A. Allen (Osteology, Chemistry, Histology), Percy Gordon Anderson, Ernest Armstrong, Harry Pattinson Bishop (Chemistry), John Frederick Brock, Lawrence Dougald Carmichael, Howard Maxwell Corlett, Harry Arthur Corman, Omar James Davies, Myles Archibald Joseph Deagle, John Croft Dempster, William Percival Devins, Campbell Allen Findlay, Fred Allen Flora, Donald Ruskin Freir, Harry Frederick Galloway, James Wallace Graham, James Alexander Grant, John Henry Graves, Norman Hymie Greenberg, James Bruce Grier, George Carrick Hare, Lorne Dale Haselton, Douglas Cecil Hay (Chemistry), Thomas Edward Hayhurst, John Vincent Herbert, Robert Lowell Hewitt (Osteology, Histology), Ralph Clayton Honey (Chemistry), Arthur William Irwin, Hugh Alphonus Thomas Keenan, William Leverne Lawson, Gordon Craib Layter, Abe Leith, James Coyne Lindsay, Alexander Lipson (Chemistry), Earle Elwood Maynard, John Matthew McBrien, Hugh Michael McCaffery (Chemistry), John Allan MacDonald, Donald Archibald Roy McDougall, Fred Stewart Mills (Histology), James Copland Milne (Anatomy, Chemistry, Histology), Leonard Robert Mitton (Chemistry), Harold Forster Moffatt, Richard Charles Moore (Chemistry), John Vincent O'Shaughnessy (Anatomy, Histology), Thomas Wesley Richards, Henry Murray Robb, James William Robson (Chemistry), John Murray Roland, William Edward Romph, Thomas Neil Scott, Albert Williams

Sheridan (Chemistry), Leo Rex Slemon, William Gordon Snodgrass, Russell Mills Sparling, Stanley Edgar Stacey, Alexander Austin Stewart, Joseph Ernest Tilson, Charles Edgar Toll, William Arthurs Wolfe, Lloyd Donald Gallinger (to repeat year).

THIRD YEAR

Stuart Robert Adam (Materia Medica), Murray Gilmour Bond, Leonard Roy Braden, Arthur Frederick Brookes, William Drummond Bryce, John Carroll (Metallurgy), Ralph Edward Carroll, George W. Cornell, Albert Henry Demuth, Herbert Earl Dobbie, John Cameron Egan, Edward MacKenzie Fisher, Richard Frederick Flach, Clifford Howard Garbutt (Metallurgy, Physiology), Gerald Harry Gardner, Wilmer Nelson Geddes, James Gordon Glascott, Thomas Clarke Griffith (Materia Medica, Metallurgy), Samuel Jack Hellen, Roy Gordon Hemmerich, Karl Weafer Hettenhausen, George Orrin Hutchison, Bernard Johnson, Donald McCready Kennedy, Oliver Sproule Kerr, Benjamin Keyfetz, Frank Albert Kohli, Cornelius Forsythe Krieghoff, Julius Landau (Physics), Harry Ross Loucks, Kenneth Halliday McKay, John Murray McCaffrey, Thomas Earl McLaughlin, Richard Merlin McQueen, Vincent McSloy, Helen Jewell Manchester, Allen Ross Montgomery, Kenneth McKenzie Phillips, Ivan George Garland Polack, Wilfred Albert Potter, Murvin J. Quigley, Archibald Rabinovitch, William Harry Ridge, Herman Rivkin, Samuel Rosen, William James Ross, Isidore Schlosberg, Arthur Singer, George Cooper Squire, Myers Lawson Stitt, Alexander Bruce Sutherland, George Valmer Tario, John Edward Trelford, Thomas Alexander Watson, John Francis Weatherill, Cecil Charles White, Charles Henry M. Williams.

FOURTH YEAR

Lois Adams (History of Dentistry), Wilfred Ernest Addinell, Theodore Nelson Belden, Samuel Berrin, William Jeff Xavier Blackburn, Gerald Horace Braden, Eton Craddock Butcher, Leo Carlyle Byron, Egbert William Connell, Saul Copeland, Flora Hall Cowan, Sydney Cross, Floyd Jerome Cuttell, Lloyd Arthur Day, James Howard Dougall, Maurice Louis Dyment, Leonard James Easter, Thelma Lenore Coleman Edmunds, William McKinley Edmunds, Clarence Lloyd Endicott, Charles Feader (Bacteriology), Samuel Freedhoff (Bacteriology), Cecil Fraser Garland, Louis Lionel Goldstone, John Gourlay (Bacteriology), William Elmer Hainer, Roy Melvin Harmer, Eric Alexander Hassard, Archibald Leonard Hays, Charles George Hewitt, Edwin Harold Hewitt, Jack Rutherford Hogg, Raymond William Hughes, Paul Hutzulak, John Reynold Ingledew, Montague Elliott Jarrett, Drew Palmer Jeffries, Archibald Aaron Kaplan, Edward Lyman Kennedy, Hugh John Kennedy, Almer John Lappin, William Whitfield Russell, Samuel Lavine, William Henry Leach, Charles Oswell Lennox, Wyatt Bradfield Macdonald, John Archer MacGowan, John Gordon MacKenzie, Robert Elwood McBroom, Thomas Gerald McCarthy, William Menzies McCorkindale, Charles Willson McCrary, Norman Andrew McCullough, Murray John McDougall, Malcolm James McKinnon, Edward Graham Merner, William Barraclough Milburn, William James Olmstead, Albert William Phin, Clark Alexander Porter, Herbert Wooliver Reeves, Edmund Gordon Rodger, Lloyd James Saunders, Edgar Briggs Sisley, Kenneth Wellington Sproule, Sarah Ellen Stark, Charles Alexander Stewart, Robert John Stewart, Harold Arthur Swales, William George Thomas, Gordon Bertram Thurston, Earle Harold Urie, John Edington Verth, Anthony J. Vince, Clarence Stanley Watters, John Flewelling West, Edgar Angus White, John Bertram Wilkes, Henry Theodore Winters.

Dental Nurses

The following candidates have successfully completed the dental nurses' course and were awarded their graduation diplomas at the commencement exercises in Convocation Hall on Friday evening, May 29:

Dorothy Cassels, Louise Reid Cooke, Robena Elizabeth Fusee, Florence Margaret Langton, Blanche Antoinette Newstead, Mary Helen Rudd, Lucy Eileen L. Sayce, Kathleen Bryson West, Beatrice Marie Wynn.

## American Society of Oral Surgeons and Exodontists

The seventh annual meeting of the American Society of Oral Surgeons and Exodontists will be held at the Brown Hotel in Louisville, Kentucky, on September 18th and 19th, 1925, the Friday and Saturday preceding the meeting of the American Dental Association.

All Oral Surgeons and Exodontists in Canada are cordially invited to attend this meeting.

EARLE H. THOMAS, Sec'y,
30 N. Michigan Ave., Chicago.

## C. D. A. Meeting, Halifax, August, 1926

When we think of the Canadian Dental Association meeting to be held in Halifax during the summer of 1926, it seems a very long way off both in time and place.

Of the two factors we need only concern ourselves with one, and that is the distance. Time in perspective looks long, but a retrospective view shows us the truth. And so the summer of 1926 will before so very long be upon us.

Distance, however, will be as much a problem next year as it is to-day. In fact it is this very distance which should impel as many as can do so to attend the meeting.

There is a very definite trend towards the disintegration and death of Dominion affiliations in Dentistry, following along the same lines as the growth of sectional feeling in other matters. It is foolish to shut our eyes and say that it is not so. We who hope for a continued Dominion unity must work for it in the branch that is entrusted to our care, namely, in organized Dentistry.

Leaving out of the question the interesting journey to a part of Canada which few of us except natives and strayed natives have seen, and the excellent programme and hospitality which will await us, let all who can begin to lay plans to attend this meeting to take our share in the work of uniting Dentistry in Canada.

J. STANLEY BAGNALL, Sec'y.,
34 Larch Street,
Halifax, N.S.

J. W. CLAY,
Vice-President, Canadian Dental Association.

# Editorial

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## Sterile Dental Equipment

In the May issue of S. S. White Dental Manufacturing Company's letter, attention is given to the steel required for dental instruments. The letter undertakes to discuss the question of sterilization in dental practice, making quotation from Dr. Hasselstine's conclusions and recommendations. It is all very good so far as it goes, but it falls short of perfection in many particulars. Most dentists succeed in sterilizing their instruments by boiling. Some few, perhaps, depend upon drugs as a means of sterilization. Judging from numerous methods of sterilization of steel instruments, one might be led to think that they were the only means of transmitting infections to a patient in the dental chair. Before there is any particular advance along this line, the whole method of dental practice and dental procedure will have to be reorganized along the lines of the general surgeon. There is no need for cupboards or storehouse for instruments in the operating room. It is only for show at best. The dental cabinet is a nuisance, and all storehouses for dental instruments in an operating room are of no value. The instruments and equipment required for any dental operation should be prepared in a proper place, and brought to the operating room under aseptic precautions. The method of sterilizing the dental handpiece is hopelessly inadequate; what value can there be in sterilizing it by boiling, and then open it up and oil it? There would not be one chance in a hundred that this operation could be done without reinfecting the instrument. Nothing short of a complete paper covering of the handpiece and the lower part of the cable will ever make this a clean instrument to work with. Then what of all the dry dressings? The

wipes, the rolls, the napkins, the paper poits, the absorbent cotton, the rubber dam, rubber dam holder, and so on? There isn't one dental office in ten equipped to sterilize dry dressings, and what is more, there aren't more than two manufacturers of dry dressing sterilizers on this continent. Practically, then, dentists are not equipped in the field of surgery for many operations they are required to do.

# Research in Filling Materials by the National Bureau of Standards, Washington

The National Bureau of Standards of the United States lays down certain conditions under which it will encourage the investigation of the physical properties of dental materials. These closely coincide with the arrangement made several years ago between the Canadian Oral Prophylactic Association and the University of Toronto.

Director of the Bureau of Standards asked the Dental Associations of the United States to assist in establishing research in Dentistry. He was unable to get the necessary money from the government, or from the organizations interested, only one—the Weinstein Research Laboratory—agreed to the conditions of such an arrangement. First—the co-operating laboratory pays the salary of the associate or associates, provides all special equipment, and provides funds for purchasing materials to be tested. Second—the Bureau provides space and the regular equipment needed, supervises the work, and makes public the results obtained. This same thing has been agreed to and carried out in the University of Toronto for the past number of years. They have published more than one series of investigations, on filling material, and general pathology. The Bureau of Standards gave its attention to the physical properties of amalgam and materials used in the inlay process. The investigations in amalgam proved that the tooth and amalgam should have the same co-efficient of expansion in order to maintain a complete blocking of a cavity wall in changing temperatures.

Investigation into the inlay process indicates that the usual plaster silica, investment, expands slightly: 3.2%, when heated to 300 centigrade. After they pass 300 centigrade, they begin to shrink and even if allowed to cool they show further shrinkage. The usual investments continue to increase in strength as they approach 500 degrees centigrade. If allowed to cool, mold 70% of their strength, thus, it would seem that casting into the cold hole is entirely wrong. The proper method of procedure, therefore, is to gradually heat up the investment until it reaches something less than 300 centigrade, and cast before there is any reduction of temperature, or in other words, cast into a hot mold. Plaster has this same characteristic of increasing its strength with the temperature raised, until it reaches 500 centigrade, but as soon as it is allowed to cool it loses very much of its strength. It is interesting to look back over the dental literature and to find that Dr. W. C. Gowan of Peterborough, Ontario, made the same observation with regard to the strength of inlay investment materials, as those made by the Standard. His observation was that the investment should not be allowed to cool, but be heated up thoroughly before the casting is made.

# Notes

Science can not reach its goal separated from the people. Neither can dentistry.

Etheline is a new anaesthetic introduced by Dr. Cotton of Toronto which gives evidence of being very useful.

If the scientist should gain the whole world and cannot share it with all mankind, civilization will again lose its own soul.

The vote of the alumni of the graduates of the R.C.D.S. is decidedly in favor of University connection. Only twelve votes opposed.

The New York College of Dentistry is putting on a course in peridentia and oral diagnosis during the first two weeks of June, 1925.

The noblest enterprise upon which any man ever set out was the government of himself. The next was the government of someone else.

Will you please announce through the "Dominion Dental Journal" the meeting of the Eastern Ontario Dental Association to be held at Stanley Island, Cornwall, Ontario, on Thursday and Friday, June 25th and 26th, 1925?

Thanking you in advance.

Dr. Sutherland, New Westminster, was recently fined $25 and costs for a breach of the Dental Act in allowing a dental operation to be performed in his office by a person not having a license. It was held by the defence that the assistant exceeded his contract in serving patients, but the magistrate held that the fact that he did the operation was sufficient evidence of a contract.

There is now established in the Western Hospital, Toronto, a regularly appointed clinic for the care of the indigent poor of the city. It is under the supervision and guidance of Dr. Howard K. Box, assisted by a staff of highly qualified practitioners. In connection with the establishment of the clinic there is a regularly appointed interne, whose services are under the control of the staff. The Dental Department of the Ontario Government is giving its assistance and guidance to the work.

The Seventh International Dental Congress will be held in Philadelphia during the summer of 1926. During the past few months, great activity has been required to prepare a programme suitable for the most advanced dental congress ever held. It is expected that every country in the world will be represented at this congress. The last meeting was held in London in 1914, and discontinued owing to the outbreak of the World War. The fifth congress was held in Berlin in 1909, and the fourth in St. Louis in 1904. It is therefore twenty years since the Congress last met in America. During this time dentistry has advanced more along scientific lines, and particularly in public and general health than in all its previous history.

Dr. Shantz, a prominent dentist of the city of Kitchener, died May 5th, 1925, after several months' illness.

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Dr. Price's radical teaching in regard to focal infection set some of the cliniticians at the Ontario convention by the ears.

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At a meeting of the Public Health Association of Ontario Dr. Conboy, Director of Dental Services, directed attention to the need of caring for children's teeth, even at two years of age.

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Dr. McDonald, of Young, Sask., is publishing a series of articles on Dental Problems, for the public. His first article contains some very important information on the eruption of the deciduous teeth.

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Officers of the Board of Directors R.C.D.S. of Ontario:
President—E. E. Bruce, D.D.S.
Vice-President—R. Gordon McLean, D.D.S.
Secretary-Treasurer—W. E. Willmott, D.D.S.
Registrar—S. S. Davidson, D.D.S.

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The appeal of Dr. D. D. Davidson and Dr. E. D. Boyle against the action of the Discipline Committee of the Board of Directors of the Royal College of Dental Surgeons of Ontario for the cancellation of their licenses because of improper conduct, was dismissed by the Second Divisional Court, so they now stand without licenses. All they were asked to do originally was to refrain from further violation of the law. This they refused to do. They will have to do it now, or discontinue practice.

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It was most interesting to hear the comments on the variations in teaching as exemplified at the Ontario meeting. Extract every tooth with a non vital pulp was not enough, but remove every tooth with decay of any considerable penetration into the dentine, and still further, don't grind the enamel off a tooth or the pulp will become infected, and logically require extraction too. In the next rooms complete sterilization not only of dentine but cementum was being explained, as well as methods of permanently keeping periapical tissues aseptic and teeth ground so as to expose dentine. It was well to have all these views brought close together, the pity is the violent exponents of these and several different views could not have been brought together in a free for all at a closing meeting.

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Dr. Harry S. Thompson has just returned from an extensive trip through the Western Provinces. He spoke at many places, directing public attention to the advantage of sound teeth and healthy mouths. There are 640 children in the municipality of Maple Ridge with defective teeth. The Women's Institute asked the Municipal Council for a grant towards caring for all the children's teeth. The Government grant would be $285, and if the Council contributes $285 as a grant to the Women's Institute, it will be possible, with what the Institute intended raising from other sources, to attend to the children's teeth, the parents of the children paying half the fees of the dentists. This will give all the children a chance to have their teeth attended to. The Institute would look after the children of parents who could not afford to pay. The Council made a grant of $140 on the understanding that the Board of Education would contribute the balance.

# CORRESPONDENCE

## Re "Hot Stuff"

Ottawa, May 18, 1925.

Editor Dominion Journal.

Dear Sir,—I noticed in a recent issue of your Dental Journal a copy of a circular letter which was sent out by me to all the dentists of Eastern Ontario.

"Hot Stuff" was the heading under which you published this letter, and the heading was more or less appropriate inasmuch as it was written originally to awaken in the minds of Eastern Ontario licenciates their responsibility to the Eastern Ontario Dental Association.

Interest had cooled down and the conventions of the Association had become a dead issue. Something had to be done to make the pot boil again and "Hot Stuff" was issued as the potential fire. It succeeded. We had the largest attendance on the records of the E.O.D.A. in spite of the fact that it poured rain for three consecutive days.

The convention of the E.O.D.A. is going to go bigger than ever this year at Stanley Island, that lovely summer resort on the St. Lawrence, where boating, bathing, fishing, tennis and golf attract thousands of summer vacation seekers of rest, health and pleasure.

June 24th, 25th and 26th are the specific dates set aside, which dates the dental profession is going to have the spacious, beautifully located summer hotel all to ourselves.

Spend the evening of Wednesday, June the 24th, and the following two days with us, Mr. Editor, at Stanley Island, and tell all your readers you would like to meet them there.

The finest of automobile roads lead to Cornwall, Ontario, from all directions, and once arrived there you are within a couple of miles and can get detailed information as to garage, ferry, etc.

Sincerely,

O. K. GIBSON.

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Dr. Webster,
Dental College,
Toronto, Ont.

Sandwich, April 8, 1925.

Dear Dr. Webster,—I have come to the conclusion that a gas machine would be a good investment for me. At once the problem arises as to which machine to buy. I favor the Heidbrink myself, but a number seem to like the safety machine.

I am more concerned, however, about feeling confident that I am capable of handling a gas machine. It is one thing to be licensed to use one, and another to be capable. I have assisted in gas cases several times in Sarnia, and it is not a matter of nerve at all, but just that I want to be sure that I know all that could be expected of me. How can I best decide this question, and what would you suggest? Could you advise me as to a good text book on this subject?

I will appreciate your advice in this matter.

Sincere regards,

E. A. STOREY,
May 5, 1925.

Dr. E. A. Storey,
147½ Lochiel St.,
Sarnia, Ontario.

Dear Dr. Storey,—It seems to be chiefly a matter of getting used to a gas machine, because most of those on the market are satisfactory from a mechanical standpoint. Those we have consulted think the Heidbrink is very satisfactory for what you want.

A most suitable text book on the administration of gas is "Barbers." I do not remember the name of the publisher. The current dental literature should be followed as well as the directions given by the manufacturers of gas machines. The magazine on anaesthesia, published by the American Anaesthetic Association, should be in your hands every month.

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Dr. A. D. Webster,

Dear Dr. Webster,—I had a very strange case in my office some time ago and I would appreciate it if you would give me any explanation as to the cause or treatment.

A colored gentleman, by the name of Mr. Jones, came into my office for an extraction of an upper right cuspid. I extracted the tooth and replaced it with a bridge. About two weeks after, a white or bleached spot appeared on the face just about opposite the root of the cuspid which I extracted. This spot grew larger until it was about three inches square. It has now stopped spreading, but it has made quite a disfigurement on his face.

Mr. Jones has been to several doctors and they can not give any explanation as to the cause. One man said the nerves in the area had been torn at the time of the extraction and had caused a bleaching of the skin. I do not think much of this explanation as the tooth came out in one piece and was not hard to extract.

If you could give me any explanation as to the cause I would greatly appreciate it.

Fraternally yours,

J. CARL McLISTER.

Dr. J. Carl McLister,
7½ Sandwich Street,
Sandwich, Ontario.

240 College Street,
Toronto, May 18th, 1925.

Dear Dr. McLister,—Like Mr. Jones, I have consulted all my friends —especially among the physicians—to find out if they have ever heard of negro tissue losing its pigment. No one has offered me any help. Text books on skin diseases say that this condition occurs chiefly amongst the negro races, and may be congenital, or acquired. It is chiefly located about the neck and face, and hands. The area is often not well defined, shading off to a chocolate color. The hairs turn white, as well as the skin. The cause is unknown, and no form of treatment has ever produced any effect. Occasionally, the acquired form recovers of its own accord. I have noticed more than one patient among the white races with patches of skin in which the pigment has been lost, and entirely disappeared after the removal of some infected teeth, or other points of infection. It is thought by some authorities that the patches occur in the distribution of some special nerves. However little, if anything, is known of the condition.

# Book Reviews

## REVIEW OF "THE MATHEMATICS OF DENTAL PROSTHETICS"

By F. W. Rapp, United Kingdom Dental Register

This little book is intended to show the necessity for the use of instruments of precision in order to make satisfactory dentures and to prove that full denture prosthesis is an engineering problem. The information is valuable and many of the points well taken, but it is presented in rather an unattractive manner. Poor paper, long, involved sentences, and paragraphs difficult to follow.

The author claims that the average dentist believes that strict accuracy of outline and arrangement of teeth are unnecessary. This may be true in some regions, but the results obtained by the great majority of recent graduates and older practitioners who have kept abreast of the times disprove this claim.

The author rightly claims that the anatomical articulator will not of itself give satisfactory dentures for edentutous cases. He shows implements and explains methods which, he claims, will demonstrate the extreme facility with which sound engineering principles can be applied to the providing of dentures for such cases. Besides the Anatomical Articulator he recommends the use of the face bow and a quadrant for measuring and registering the facial angle. He emphasizes greatly the necessity of trimming the plaster casts accurately so that exact measurements may be taken from the patient and marked on them. The casts are placed on the articulator, using a level and squares to ensure accuracy. Curved bite blocks are used and curved rule plates made to assist in setting up the teeth. It is claimed that a variation of 1/32″ in the equality of the curves is sufficient to cause the mandible to travel in a false orbit, therefore extreme accuracy is required. By the methods outlined the author claims that the American method of using emery paste to grind in the teeth is rendered unnecessary.

In conclusion we are told that, by regarding the mouth as a machine and making any new parts for it pass very precise tests before they are tried in action, trouble for operator and discomfort and disappointment for the patient will be avoided.

S. S. Crouch, D.D.S.

## THE ANATOMY OF THE ROOT CANALS OF HUMAN TEETH

By Walter Hess, M.D., D.D.S., Zurich, Switzerland. Published by John Bale Sons and Danielson, Oxford St. W., London

This is the greatest addition to our knowledge of dental anatomy for many years. In the preface appears this sentence: The impossibility of completely filling the root canals and their ramifications by mechanical means makes the problem of the treatment of pulpless teeth very difficult, and it would appear that its solution must be looked for in the direction suggested by Dr. Howes' silver method or by analogous means. This very thought suggests the use of copper amalgam for root canals with its antiseptic properties and freedom from irritation.

In the historical review of authorities one is surprised that there is no mention of Black's dental anatomy or the work Black did in the study of root canals of teeth. It seems to the writer that the method of pulp

canal injection and decalcification is longer known than that indicated in this history. Neither Miller nor Preiswerk are the first to follow this method. There are among the lantern slides in the Royal College of Dental Surgeons, Toronto, illustrations of this method of preparation which have been in use since my early teaching days in the nineties.

This book gives over thirteen hundred illustrations of root canals and lays down some remarkable facts which anyone who attempts to fill root canals should know. The increase of secondary canals and lateral ramifications as age advances are important to operators. There should be less eloquent talk about how to hermetically seal root canals by mechanical processes after this book is read and its pictures carefully studied.

The method of filling the canals may account for the lack of apparent accuracy of the apical end of the canal. The writer some years ago examined the apices of five hundred upper incisors and cuspids and found that the narrowest point of the canal was about one m.m. from the apex in centrals and laterals and about 1½ m.m. in cuspids, and that when the opening was not at the centre of the root it was abrupt, or in other words, had its narrowest point at the surface. It is gratifying to students and teachers that Dr. Hess has seen fit to present the English reading members of the profession with his work, which marks a mile post in dental anatomy.

## Report of the Committee on Necrology

With the consent of the members of the American Society of Orthodontists, the Committee would like to recommend the following resolutions:

During the past twelve months this Society has suffered the loss of one of our most esteemed members, Dr. James B. Morison, of Montreal. One of the first to give special attention to, and teach Orthodontia in Canada, Dr. Morison built up for himself an enviable practice in Montreal, where he made hosts of friends and was beloved by all who knew him. Of a modest, retiring nature, one was always impressed by his gentlemanly qualities. His volunteer service during the World War was most efficient and highly characteristic of the man.

If we could have known that he was so soon to begin the Great Adventure, we would have loved to assure him of our faith in his courage to meet the inevitable, of our love for him as a man and a member of this Society, and of our appreciation of the good work that he has done, of our knowledge of his faithfulness to duty, his cheerful assumption of responsibilities, and his always pleasing personality.

There is only left for us the memory of a knowledge that he has "wrapped the mantle of his couch about him and lain down to pleasant dreams."

BE IT RESOLVED that in loving remembrance we tender these sentiments to his bereaved family, and spread upon the minutes this brief but lasting memorial of our affection and esteem.

Signed Dr. Burt Abell,
Dr. George Grieve
Dr. Herbert A. Pullen, Chairman.

# Dominion Dental Journal

Vol. XXXVII TORONTO, JULY, 1925 No. 7

W. G. THOMPSON, D.D.S., L.D.S.
President of the Ontario Dental Association 1924-5, Hamilton, Ontario.

# Original Communications

## President's Address

W. G. Thompson, D.D.S., L.D.S., Hamilton, Ontario

Hart House, University of Toronto, May 26, 27, 28, 29, 1925

The history of any great profession is always full of interest, especially to those who are in some way linked with its activities and purposes, and this applies particularly to the dental profession and its members. A period which shows marked advancement in connection with any department of our work must be admitted as being outstanding. We have passed through just such a year, and I am privileged, in my presidential address, to report great advancement in connection with a number of our professional activities.

The first development to which I would like to refer is the appointment of a Director of Dental Services. For many years the profession had been striving to persuade the Ontario government to establish an efficient Dental Department as part of the provincial health program. The present Minister of Health, Hon. Forbes Godfrey, M.D., has, at our earnest request, taken this action, and we, as a profession, are in duty bound to stand behind him in this new work. His choice of a director for this department has indeed been most fortunate. The position demanded many and varied qualifications and powers; the ability to organize, a knowledge of municipal and provincial government, the gift of oratory, and the confidence of his fellow practitioners. Dr. Fred J. Conboy is perhaps the one man in our profession who possesses these requisites in a marked degree, and if we ourselves had the making of the appointment the choice would not have been different. As the report of the Oral Hygiene Committee will show, the department is already functioning in a most efficient manner, and much important work is well under way. This appointment, however, throws an increased responsibility upon the profession. We are now brought face to face with our duty, and we see opening before us great opportunities for service. The conscientious dentist can no longer confine his attention to those who seek his services and are able to pay his fee, and be satisfied he has done his full duty. He can no longer consider himself a success, when he spends his full time supplying the dental needs for wealthy patients. A more altruistic and beneficient service is demanded. We must have a part in providing dental treatment for those who cannot afford to pay the regular fees, and especially for the boys and girls who must depend upon others for the dental attention they so urgently need. The dentists of Ontario now have the opportunity to list their profession with those that are actively concerned in benevolent and humanitarian work. The future standing and prestige of dentistry in Ontario will to a large extent be determined by the character of our present response to this great call for public service. If we are willing to sacrifice a little in order that others may receive a great blessing, we will prove ourselves worthy of

respect and we will receive the commendation we merit, but if we are indifferent or self-seeking we will demonstrate to the general public that we do not possess the true professional instincts and ideals.

Business men through their service clubs have shown themselves willing to help the unfortunate and less privileged. Can we, the members of a profession, do less? Especially when we are the only ones who can render the service the people need. So when opportunities for helping present themselves, let us accept them gladly, and not allow self-complacency, timidity or indifference to turn our feet from the path of helpful public service.

The second development has to do with the relationship of the Royal College of Dental Surgeons to the University. I believe the profession is favorable to the School of Dentistry becoming a Faculty of the University of Toronto, and we all look forward confidently to the future developments of dental education in Ontario. Every precaution will be taken to preserve the right of the Board in regard to issuance of licenses, and cordial co-operation between the Board and the College will be assured by one of the Faculty members being elected to the Board, and three members of the Board being elected to the Faculty. I believe that under the direction of the University dental education will continue to advance as in the past, and dental investigation and research should receive a great stimulus.

### Re Discipline Committee

May I make a plea for the true spirit of ethics in our profession as expressed in the Golden Rule. If every member will apply the principle of "doing unto others as you would that they should do unto you," to his patients and fellow practitioners, we will have nothing to fear and little to regret. By application of the Golden Rule our conduct will always be worthy of professional men and never drag the fair name of dentistry in the dust.

It has been in the spirit of the Golden Rule that the Discipline Committee of the Board has proceeded with its work during the past year. Here I would like to compliment Dr. R. Gordon McLean and the Board upon the progress that has been made in this connection. The desire of the Board in the exercise of its disciplinary powers has always been to protect the public from misleading and unworthy conduct of unethical members of the profession.

The recent court judgment simply means that the profession, through its elected representative, has power to say what is proper and what is improper conduct, in a professional sense. We not only make these decisions but have power to penalize with suspension or cancellation of license those members of the profession who refuse to live up to the standard of professional conduct, as endorsed by all the learned professions. I would urge all the members to attend the complimentary dinner at the College to-night and hear J. K. Hellmuth, K.C., discuss the question of professional ethics and discipline.

Your Board of Governors made a radical change when we decided to hold this convention at the University, but we were delighted with the enthusiastic way in which the news was received by the profession.

The hotel was in many ways satisfactory, but our present convention home offered many facilities which could not be obtained at the King Edward. We sincerely hope that the programme and general arrangements will meet with your whole-hearted approval. The work of arranging for

such a large convention is by no means easy and the publicity work takes a vast amount of time. The day is now passed when the detail work of such a meeting can be done by voluntary workers.

The secretary should take charge of the complete organization and receive his instructions from the Board of Governors. It would not be necessary, then, to select the majority of the Board from the convention city, but they could be elected from all parts of Ontario, and thus a more general province-wide interest would be created and the attendance increased. A number of dentists have spent far more time serving on committees than they should, but now the membership of the Association is sufficiently large to warrant us giving an honorarium to our secretary, which will allow him to carry out all the detail work. Your executive should take the necessary steps to bring about a more fair and efficient arrangement.

The program this year contains more papers and addresses than usual, and many of the dentists in attendance would like copies of the material presented. It would be an excellent thing to instruct the executive committee to read the various papers, discussions, and reports, and after editing them, forward the copy to the two journals for publication.

In conclusion, I desire to thank the members of the Board of Governors and all others who assisted in connection with the work of this convention. Many men who were not in an official position did excellent service in connection with the publicity, and to all these, the Association is indebted. The profession of dentistry is to-day in a very healthy condition, and a fine spirit of harmony and good will exists. The individual members are anxious to so improve themselves that they may render the best possible service to their patients and give generous and whole hearted assistance in connection with public health activities. Times have been hard, the people have suffered from business depression and unemployment, but fortunately, the economic outlook seems brighter, and dentists can look forward to a period of helpful, happy service in the interests of their fellow men.

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# Restricting an Assistant

Just a word may be said about an agreement with an assistant that on his leaving you he shall not be at liberty to practise within a certain area. In former times a contract which fettered an individual from pursuing his trade or business was held to be void, but now such a contract is upheld by the court, providing:

(1) That it is reasonable.

(2) It is necessary to the protection of the employer.

(3) That it is in the interests of the public.

Of course what is reasonable is a question of fact and depends on the particular circumstances. Thus, if a firm are the sole manufacturers in England of a certain article, then it may be quite reasonable to restrict the assistant from setting up a similar business in the whole of England. But in the case of a dentist or other professional man such a covenant would be absolutely unreasonable, and I think in ordinary circumstances any covenant to restrain a man for more than five years within a radius in the provinces of ten miles, and in London of four or five miles, would be held to be unreasonable, and remember that if the covenant is unreasonable the court will hold it void altogether and will not make it apply for such as is necessary for the protection of the employer.

# Pulp-Canal Opening and Filling by Diffusion

## TECHNIQUE AND RESULTS OF ELECTROLYTIC MEDICATION

Harry B. Johnston, D.D.S., Atlanta, Ga.

The most gratifying sign in dentistry to-day is the thinning ranks of the so-called "hundred percenters." Just a few short years ago when so many of our most able practitioners were overwhelmed by a mass of reports by both physicians and dentists (mostly the former), in evidence of systemic damage done by periapical foci, they threw up their hands and surrendered without a struggle. In fact, many of them seemed to take the utmost delight in confessing their inability to cope with a simple infection. The distinguished leaders in this defection were enthusiastically followed by hundreds of the younger practitioners who joyfully hailed exodontia as a simple and speedy deliverance from the tedious and tiresome pick, pick, pick and treat, treat, treat of root-canal work. This is not to be wondered at in the case of the young practitioner, but it is to be wondered at that the veteran should by one-sided statistics (emanating principally from the laboratory) and half baked deductions therefrom be suddenly swung from a position of ultra-conservation to one of vicarious extraction. Those were gloomy days for dentistry and it really seemed that we were in a fair way to have the word "doctor" extracted from our degree and the word "mechanic" substituted therefor. Our professional sun had for many gone into total eclipse behind that small, dark shadow on the radiogram. But now, thanks be to God, this shadow is lifting. The mask of our bugaboo has been removed and we find only a small boy behind it.

This retrogression did, however, serve the very valuable purpose of inducing intensive study on the part of those who remained loyal to their title of doctor, and is bringing to us more definite methods and technique of dealing with these conditions. Our sun is beginning to shine again. In fact, I think I may say that recent experiments and masses of clinical evidence reported from many quarters have about brought it to noon-day intensity, except for those who have not yet considered all the evidence.

We have proved beyond question that a pulpless tooth is not necessarily a "dead" tooth.

We have proved that a large percentage of teeth which have been pulpless from a few weeks to many years are sterile.

We have proved that the great majority of apically infected teeth can be sterilized—both apical tissue and tooth.

We have proved that the canals can be so filled as to exclude the probability of reinfection. Do not understand me to say that all apically infected teeth can be so handled. Many of them must be extracted, but the great majority can by proper treatment be indefinitely conserved and rendered entirely innocuous. The differentiation of these two classes naturally comes under "diagnosis," which is not within the scope of this paper.

This evening's entertainment must for lack of time consist solely of a description of your essayist's methods of opening and filling pulp canals, of testing periapical areas for infection, of sterilization and of retesting.

It is no longer necessary to stress the importance of filling the main or trunk canal. That is fully recognized. It is still most important, however, to stress the importance of filling the accessory canals, for each of these smaller canals if unfilled constitutes as great a menace to the health of the tooth and the patient as the trunk canal.

It is a fact that the very great majority of tooth roots have more than one canal and foramen, and it is my opinion that failure to fill these accessory canals and seal their foramina has been the main cause of failure with those teeth which the X-ray shows perfectly (?) filled. But, you say, it is impossible to fill these with any degree of certainty. You do not know where they are—the X-ray does not show them, and how can we fill a canal when we do not know if it is there or not? By the old chloro-percha method I grant you it is impossible, but by the methods I shall outline to-night I contend that it is not only possible but easy to fill any number of accessory canals of any shape, size or direction, whether you know they are there or not. I shall endeavor to prove this by X-rays of fillings made in the mouth, and slides of decalcified teeth filled out of the mouth.

Before going into this part of the paper, however, let us get straight on some of the principles upon which we cannot rely for accomplishing this purpose. The oldest method upon which we have pinned our faith and been totally disappointed is that involving force. It is a physical impossibility to fill these minute canaliculi by force without exerting such a great amount that it would split the tooth. This method also assures us of too great an excess of filling material beyond the foramen.

Next Dr. Callahan brought out his method, which we might say involves "persuasion." This is the most effective method evolved up to date for filling the trunk canal, but it is entirely futile for the accessory canals, except with certain modifications which will be outlined later.

Next Dr. Howe of Boston brought out his method of filling by capillary attraction, but by a long series of experiments I finally succeeded in proving what anyone should know after a moment's thought, that capillary attraction does not exist in the canal of a tooth in the mouth. The smallest ends of the capillaries are closed by the periapical tissues, and it is a well-known fact that when the end of a capillary is sealed, even by placing therein the most minute quantity of water or other substance, the entire attractive force of the capillary is neutralized. I do not contend that Dr. Howe's solutions do not penetrate the canals, canaliculi and tubuli, but they do not do it by capillary attraction, but rather by diffusion—and at that it does not seal any of them.

How may we render these minute canaliculi receptive to our filling materials? By man-made methods, or by utilizing the forces of nature? Man's chief problem here on earth is to discover and utilize the laws created by God whether pertaining to physical, mental or spiritual affairs. "The Laws of Nature," so called, is but one division of God's laws, and the most successful practitioner of the healing and restorative arts is the one who can most fully utilize the forces and laws created by an all-wise and loving Creator, just as the most successful individual life is that which is controlled by the mental and spiritual laws of its divine Maker. Nature has stored away in each pulp canal a force exactly sufficient to fill it perfectly, if we can perfectly utilize that force. This force is known as "The Law of the Diffusion of Liquids"; which is in effect that two or more liquids capable of being mixed will when placed together effect a

spontaneous exchange of molecules, even in defiance of the law of gravity, until each has become perfectly diffused throughout the other.

How may we best utilize this law in the filling of pulp canals? I do not know the best way—that is yet to be found, I think, but I do know one way which has in my hands given good results. This is by certain additions and modifications to the "Callahan Method," which will in the hands of a careful operator give results which we have not heretofore considered possible.

Briefly stated, the Callahan method consists of the use of dilute sulphuric acid as a decalcifying medium to assist in opening the canals, followed by a saturated solution of sodium bicarbonate, causing a rapid effervescence which effectively clears out all debris. The acid is also a powerful though superficial germicide. After dehydration by alcohol, the canal is flooded with a solution of chloroform. A point of pure base-place gutta-percha, only slightly smaller in diameter, but longer than the canal, is then selected, passed into the canal and caused to dissolve in the chloroform by a rapid though delicate pumping or stirring motion. We will now take up this technique at the first step after the tooth has been prepared for treatment, and follow it through step by step in the proper sequence. The first and most important thing is to cleanse as thoroughly as possible the trunk and accessory canals of all organic material, and leave them clear so that they can be properly and perfectly filled in the last step of this technique.

For this purpose a 30 to 40% aqueous solution of the chemically pure acid is used. It softens the wall of the canal by a process of decalcification so as to permit easy and fairly rapid enlargement of the caliber by curretting with various instruments. A valuable factor in the use of the acid is that it may safely remain in the tooth long enough to permit of its diffusion through accessory canals which cannot be reached with any instrument and can be treated only by grace of the law of diffusion of liquids. It must always be borne in mind that our only real problem is to fill these accessory canals and seal their foramina. By diffusion, the sulphuric acid will penetrate these more safely than any other chemical now at our disposal. It is far from being as effective in dissolving the organic content of these canaliculi as we would like, but so far the factor of safety to the patient has prevented the sealing in of any more effective solvent; for bear in mind that these canaliculi can be reached only by diffusion, which requires time. The organic matter in the canals and canaliculi is attacked to a marked degree, caused to yield up its water, shrink, and release its hold upon the tube wall. The effervescence caused by the addition of the soda will then break up the organic matter and remove it cleanly from the larger canals and to a considerable extent from the smaller canaliculi. But although the organic matter may not be perfectly removed from these, part of that remaining is forced out of the foramina into the tissues where it is promptly digested, and the remainder encapsulated in the filling.

The advantages of the dilute sulphuric acid then appear to be as follows:

(1) It permits of the rapid and perfect cleaning and enlarging of the main canal.

(2) Its marked affinity for water causes its rapid diffusion through all the accessory canals where its well-known oxidizing properties have a burning or charring effect upon dead tissue.

(3) The addition of soda produces such a violent effervescence that not only this debris but frequently even broken instrument points will be forced out of it.

(4) Last, but by no means least, it may be safely sealed in the difficult canal (one plugged with debris or occluded by pulp stones), which will allow ample time for this diffusion to a limited depth through all canals and canaliculi, enlarging them by a self-limiting decalcification and cleaning and sterilizing by oxidation.

What about the possibility of pumping some of this sulphuric acid through the foramen? With reasonable care this result would be the very great exception; for bear in mind that any liquid you place in the empty main canal does not go ahead of the instrument, but follows it, and you are much more liable to get a laceration of the periapical tissue from your instrument point than an irritation from the acid. In a root having a large foramen you have only slight need for the acid, and it, like any other similar agent, must be cautiously and sparingly used in this type canal. It should not and need not be sealed in a canal of this kind.

### Technique and Instrumentation

After the canal has been freed of pulp tissue or old filling, the crown of the tooth is coated with cavity varnish, sandarac, or chloro-resin, the pulp chamber flooded with 30 to 40% acid and the canal entered with a fine or extra fine Kerr pulp canal file. This is gently passed in until it hangs. It is then given about ⅛ twist, held in that position and withdrawn. This is repeated, pumping the acid in thoroughly until the instrument and acid have penetrated to about the apical third or gone so far as the file will easily go. The next smaller size file is then used and the opening and pumping continued slightly farther. Measuring wires may be used at this point if desired. No instrument larger than the finest smooth broach, or pathfinder, should ever be passed through the foramen if it can be avoided. In the majority of cases it is easy to tell when you are about to enter the foramen, as there is a slight construction just short of the actual opening. The acid should be thoroughly pumped to this point and neither acid nor instrument carried any farther. It is difficult to coax the acid to this point and there is small danger of getting it any farther except, of course, in the very large canals. The acid is neutralized at frequent intervals, removing the debris, and just before sealing the cavity and dismissing the patient, fresh acid is pumped into the canal, the surplus absorbed out of the pulp chamber, a pellet of sterile cotton placed in, and the cavity sealed with cement or hot temporary stopping without pressure. This may be left in for any length of time that may be desired or necessary, as acid is self-limiting in its action, and due to the alkalinity of the lime salts of the dentin, does not remain active for more than two or three hours.

If the canal in which you are working is not perfectly straight and the Kerr file hangs at some point, or suddenly fails to penetrate farther, remove it from the canal, and with the radiogram as a guide, bend the point of the file slightly, reintroduce into the canal, and probe for the opening into the remainder of the canal. The very great majority of the canals can be freely and easily opened if we can bend our file to approximate the curve of the canal. Force plays no part in the opening of a pulp canal, it must be done by "persuasion." There must be no effort to "jimmy" the canal open. It is already open in 49 out of 50 cases, if you will but probe until you find it.

Let us study for a few moments just what the acid does while it is in the canal and how it does it. In a pulpless tooth all of the canals and canaliculi are as a rule filled with decomposed organic matter in aqueous solution. That can be removed from the main canal by absorption but it cannot be so removed from the fine accessory canals. When the main canal is flooded with the acid then the law of the diffusion of liquids comes to our help, and as the 60% of water contained in the acid solution is not sufficient to satisfy the acid, it takes up more water from whatever source it can gather it. Placed in the tooth, its only available supply is contained in the accessory canals, and to some extent in the tubuli. It can gather but little from the tubuli, however, because of its farther penetration. It must therefore act upon the watery content of the accessory canals, which it promptly does. The water in these canals is drawn into the acid and the acid flows back into the canals. In other words, sufficient of the water and the acid change places to produce a balancing of the solution. Does any of this acid diffuse into the tissues beyond the foramen? Not unless the apical tissue has been broken down and replaced with cystic fluid. Its action in coagulating albumin will not permit it to actually enter living tissues. There again it is self-limiting.

Subsequent application of fresh acid followed by the soda will result in the complete removal of all organic material from all of these canals excepting those exceedingly small and quite longer than the average.

### Filling the Canaliculi by Diffusion

When we have finished with our acid and neutralized it for the last time, our canaliculi are filled with water, holding many chemical compounds in solution. The water effectively bars the entrance of chloro-resin solution, so we must substitute something else for this water; something which has an affinity for chloroform. Alcohol is ideal for this purpose. The main canal is then flooded with 95% alcohol, which is thoroughly pumped and churned into it. By diffusion this substitutes for the water in the canaliculi, filling them with a lower grade alcohol. Ample time must be allowed for this, for if the canaliculi contain less than 85% alcohol, the chloro-resin will not diffuse through it. This usually requires from one to three minutes. All of the alcohol which can be removed with absorbent points is then taken out and the pulp chamber and canal flooded with the chloro-resin. No pulp canal driers or hot air must be used at this stage, for we wish the canaliculi to remain filled with alcohol. The chloroform diffuses perfectly and rapidly into the alcohol, and inasmuch as the resin is in perfect solution in the chloroform, wherever the chloroform goes the resin goes. Time is required here also. Allow from two to three minutes pumping in fresh chloro-resin as the chloroform is soaked up by the tubuli and canaliculi or passes off by evaporation. Toward the end of this period, when the solution in the canal begins to get rather heavy, add pure chloroform as needed to keep it sufficiently thin to dissolve the gutta-percha point.

When this third substitution or diffusion is complete, a gutta-percha point of suitable size and shape is then passed into the canal and is dissolved by either a pumping or stirring movement, the movement used being governed by the size of the foramen. With a normal, small foramen a very gentle pumping is best; with a large foramen this might force too much chloro-percha through, therefore a stirring movement is used.

Just how beautifully the gutta-percha will diffuse through the chloroform will be shown by the slides of the decalcified teeth and the radiograms of teeth filled in the mouth.

We are told, and correctly I think, that chloro-percha in hardening shrinks from the periphery. In other words it releases the walls of its container. And we are also told that chloro-resin-percha in hardening shrinks from the center, and clings to the wall of this container by virtue of the strong adhesion of the resin and the fact that tiny threads of this material actually enter the tubuli. An excellent way to assist this central shrinkage and peripheral adhesion is as follows: After the filling has been sufficiently condensed with the canal-pluggers, select your finest plugger, and by passing it down through the center of the filling for about one-third to one-half the length of the canal entirely break up the central cohesion. It is impossible to prevent the shrinkage of gutta-percha, but we can control it.

The pulp chamber should then be quickly filled with cement so as to prevent external evaporation of the chloroform, for if the chloroform is permitted to evaporate externally, even the above precaution will not prevent peripheral shrinkage.

Nothing has been said so far about the effectiveness of the resin in filling the tubuli. Chloroform is one of the most penetrating liquids we have and it not only quickly penetrates the tubuli, but the interprismatic spaces between the enamel rods as well. This can be easily proved. Dehydrate an extracted tooth, allowing it to dry out naturally or by a protracted immersion in alcohol or acetone, soak it for several hours in heavy chloro-resin solution, then dry and try to break the enamel with a chisel or by grinding with a coarse stone. An old tooth which has been dried out for years, and the enamel of which is as brittle as glass, can be made as tough as a fresh tooth in a very few hours by this simple process. This is an excellent way to treat your technique teeth so as to prevent the chipping off of the enamel while you are preparing them for various uses, and also to prevent their cracking and checking in after years.

Of course, if this solution will carry sufficient resin into the interprismatic spaces to have this effect on old, dried-out teeth, there can be no argument about it carrying sufficient resin into the infinitely larger tubuli to effectively obliterate them and encapsulate in its dense solid substance any bacteria they contain. Even grant (as some contend) that the resin is not a germicide or antiseptic, a bacterium encapsulated in it is entirely harmless. Only the finest grade "water white" resin should be used. "Fiddle bow" resin is the third grade; "Water white" is the first.

## Technique and Results of Electrolytic Medication in Periapical Infection

Immediately upon entering into the specialty of pulp canal treatment and filling some years ago, I took up the practice of ionization, or, as it is more properly called, electrolytic medication. From all the information I could obtain at that time, the most approved technique seemed to be that calling for fifteen minutes ionization, giving one-half to one milliampere empirically for several years. At that time no one seemed to know exactly why fifteen minutes should be the limit for the flow of the current nor the exact reason for the amount of amperage, or exactly what results could be expected from the treatment except that it was supposed to have more or less sterilizing effect upon tissue. Clinical results obtained by this technique were, in many cases, decidedly beneficial, but failing utterly to obtain much definite information upon the points just outlined, the writer pursued independent investigation and has finally acquired sufficient exact

information concerning this treatment to convince him that with a new technique and solution it is the most effective at the present time for sterilizing both tooth structure and periapical tissue.

Bacteriological experiments were conducted, using a large number of different solutions over various periods of time and with definite strength of current. My experiments with the first two solutions in common use, namely zinc chloride and sodium chlorid, have proven them entirely unsatisfactory from the standpoint of tissue sterilization. A 3% solution of iodin recommended by some practitioners of note was tried. with equally unsatisfactory results, except that they convinced me that iodin was the proper element for accomplishing the desired purpose. Various solutions of iodin were then tried, with results which strongly indicated that the more free iodin the solution contains the more effective it is as a germicide, as only the free iodin is properly available for ionicmigration. In addition to the strength of iodin contained in the solution, the amount of electrolytic action permitted by the solution also entered strongly into the question. The solution I finally decided upon as being the most effective from every standpoint is that known as Churchill's tincture of iodin. This solution contains 16½% of free iodin and is also a splendid electrolyte, ranking very slightly below physiologic salt solution in that particular.

Immediately upon adopting this solution, my results were revolutionized. I found it able to accomplish results hardly dreamed of before. Many laboratory experiments were made with it, but I shall describe only the one series which most closely approximated clinical conditions. It is my opinion that the very great majority of laboratory experiments with this form of medication are inconclusive and bear little, if any, relation to the clinical conditions and are therefore interesting only as laboratory experiments. In our experiments, the more closely we can simulate clinical conditions the more conclusive our results will be. I do not say that laboratory experiment is useless, but it must always be interpreted purely as such and not given an equal value with clinical results. After all, the only result of real importance and significance is the clinical result.

The first series of experiments closely approximating clinical conditions consisted of obtaining fresh extracted teeth which had come out with the granuloma intact on the root ends. The specimen was immediately sent to the bacteriologist, cultures taken from the canal and from the granuloma, returning it immediately to me. I then put a wax collar around the gingival portion of the tooth, immersed the root portion in a tube containing Ringer's solution and having an electrode embedded through the glass bottom of the tube. The canal was then opened and cleaned out mechanically, the electrolyte pumped into the canal until contact was obtained with the granulomatous tissue, a platinum electrode passed into the canal, electrical connection made and the desired flow of current passed through it. Immediately upon completion of this treatment, the tooth was returned in the tube to the bacteriologist, who removed it, picked off the granuloma, macerated it, chipped off the apical third of the root, pulverized that, and both specimens were cultured. I think you will agree that this method very closely approximates the clinical. After a considerable number of such experiments, I found that if I used Churchill's tincture of iodin, giving one-half of one milliampere of current and continuing it for thirty minutes, I could sterilize the entire tooth structure and the largest granuloma I had obtained.

After adopting this technique my cultures were uniformly negative. Next, in order to test this treatment under absolute clinical conditions, I

began to aspirate the apical fluids before and after treatment and culture them. The technique is as follows:

After the canal has been cleaned out and enlarged (if necessary) the end of a platinum-tipped glass tube is sealed in the pulp chamber by means of temporary stopping and a powerful vacuum created and continued for five to fifteen minutes, depending upon the size of the foramen. An Elgin casting machine* is used to create the vacuum. Sterile cotton pellets and points are then used to absorb the extracted fluids and cultures placed in both solid and liquid media. The tooth is then ionized, using Churchill's tincture with one-half milliampere per canal for thirty minutes. The canals are then very thoroughly washed with 95% alcohol to remove every possible trace of iodin. This is followed with an equally thorough washing of distilled water which is dried out from the canals with sterile pellets and points. The vacuum is then again applied and the effort made to obtain as much of the apical fluids as possible. This is also cultured in both liquid and solid media. It will be readily understood that by this method it is possible to draw fluids from a considerable area around the apex, which removes the objection that our treatment might have produced a simple surface sterilization.

This is, to my mind, the most conclusive test possible and I am glad to be able to report that results obtained have been entirely satisfactory. One hundred such tests were made, the results were uniformly negative except where the specimens have been contaminated. Each contamination case was checked up again more carefully and proved negative. These were not selected cases but ordinary run of practice cases which were considered worthy of treatment. When a deep pyorrhea pocket existed by the root under treatment, I found the cultures, after treatment, usually showed a growth. I attribute this to the presence of the pocket and believe that the infection is drawn by the vacuum through the lymphatics draining the pocket area. I have therefore arrived at the conclusion that it is inadvisable to treat apically infected teeth which bear a pocket as deep as half the root length. This conclusion has been greatly strengthened by the report of Hartzell to the effect that a large percentage of deep pocket permits of too ready access of bacteria to the apical region.

As to clinical results and case histories, I shall endeavor also to be brief and at the same time give enough to indicate what can be accomplished. In addition to the 100 cases just mentioned, I have records of approximately 400 pus cases, that is, cases from which there was an active flow of pus, either through a sinus or through the root canal, which were cultured as previously stated and filled at one sitting with no treatment whatever except to simply absorb all of the available pus and ionize. All of these cases except eight responded promptly to the treatment. Where a sinus had been created on the gum, that closed and healed promptly and within twenty-four to forty-eight hours after the filling and where drainage had been established through the root canal, that was immediately closed by the filling. Three of the eight cases referred to were, after careful examination, considered worthy of another attempt and so were ionized and filled a second time with satisfactory results. Of the five remaining, which did not respond to the treatment, the roots of one were found to penetrate the antrum and the other four bore marked evidence of resorption and roughening of the apical cementum which was not detected by the radiograph

* For the suggestion of the Elgin machine I am indebted to Dr. Crane.

Being emboldened by these results, some few months ago I determined to try the same treatment on an acute periapical abscess. This case was in its most acute form, being intensely sore to percussion, with slight redness and swelling, but no formation of pus. In other words, the infection about the apex was in its most virulent stage. At one sitting the tooth was opened, ionized and filled and results anxiously awaited. This was done about nine o'clock in the morning, and by four in the afternoon the pain had almost entirely subsided. The patient slept comfortably that night. The following morning the swelling and redness had disappeared and only a slight sensitiveness to percussion remained. This entirely disappeared within the next twenty-four hours. The abscess was entirely aborted by one treatment. Since that time I have been fortunate enough to get fourteen additional cases in exactly this same stage, and each of them has responded in an identical manner. In my opinion this is the most severe test of this method which could be imposed upon it. It is true that fifteen cases are not very many, but it seems safe to say that if it can be done in fifteen consecutive cases, it can be done in a great many others. My personal belief is that with this technique carefully carried out this result will be obtained in practically every case, as it leaves little if any infection to be cared for by the patient's resistance.

The technique of administering this treatment is very simple. After the canals have been thoroughly cleaned and prepared for the reception of the filling, they are then dried out with absorbent points, the Churchill's tincture pumped into them until we are sure it is in contact with the apical tissue, the electrode passed in and the negative pole attached to the electrode, the positive pole placed inside the cheek, or lip, and the proper current slowly turned on. For one canal we give one-half of one milliampere and for each additional canal, ionized simultaneously, an added half milliampere. For three canals of a molar this would give us a total strength of current of one and one-half milliamperes. If our canals have been properly cleared, the solution gotten in absolute contact with the apical tissue and our electrode in the proper position in the canal, there will be very little resistance to the current and very little pain produced. If the resistance is high, discontinue the ionization, trace the trouble and remove it.

The electrode may be of any desired metal, but we have found 30 gauge iridio-platinum wire best for this purpose. These wires must be flattened and pointed to permit the circulation of the solution by diffusion. As a rule it is necessary to replace the solution each ten minutes of ionization. Of course if the pulp chamber is very large and a great quantity of the solution can be contained in it, one or even no replacement may be needed. It is also important that after each replacement, the fresh solution be thoroughly pumped and churned into the canals. This can best be done with the electrode wire which is in the tooth. The tooth electrode must be permitted to pass through the canal; neither must it be farther than three-sixteenths of an inch from the apex. The first condition would produce a short circuit and no iodin would be conveyed, and the second would give such a high current resistance that much pain might be produced and certainly little iodin would be conveyed.

# SOCIETIES

## Ontario Dental Association

### 58TH ANNUAL CONVENTION, HELD AT HART HOUSE, UNIVERSITY OF TORONTO, MAY 26, 27, 28, 29, 1925

WEDNESDAY, MAY 27TH

Dr. F. J. Conboy Toronto, opened the afternoon session at three o'clock, by calling on Dr. R. G. McLaughlin to present the Report of the Legal Protective Association.

Dr McLaughlin prefaced the committee's report following, as follows:

It is almost impossible to give a proper survey of the Dentists' Legal Protective Association's work in the time given for the report. The work during this year, which has been the second year of the Dentists' Protective Association, has been much heavier than even we anticipated. We had some little experience in the first six months of this organization which gave us an idea that the future had more work still in store for us. In that respect we were not disappointed. We have had a great many cases presented to the Executive Committee for adjustment.

We have learned in the past year a few lessons as far as the experience of the Dental profession of Ontario is concerned, because we had applications for advice from all parts of the province and of great variety. Perhaps as I go along with this report you may have some idea of the extent of our work during the year.

REPORT OF DENTISTS' LEGAL PROTECTIVE ASSOCIATION

Your executive committee herewith present the second annual report of the Dentists' Legal Protective Association.

The progress and work of the year have demonstrated to your executive the importance of the duties devolving upon the central body of such an organization, and we are forced to the conclusion that still sterner duties and of greater importance must be faced by this organization if the members of our profession are to be properly safeguarded in the future.

Also the additional fact has been taught us during the life of this

Protective Association, namely, that the public, as never before, is holding the dental practitioner legally responsible for mistakes and negligence in the discharge of his professional duties.

Altogether the year's work of the Association has been most satisfactory.

The secretary's report will show a decidedly increased membership, and we are led to believe that the confidence of the profession in the legal protection rendered has likewise been increasingly merited.

During the year some twenty cases of a more or less serious nature have been referred to the executive for assistance, and in some cases legal interference.

Out of these cases over which your executive had control from the beginning, only one had to be defended in the court, and we won that case.

In two other serious cases over which we did not have control at the first trial, and in which judgment with damages were given against the dentists, your committee felt they were of such importance that we undertook, through our counsel, to follow the cases into the appellate court. One of these cases we won and the other we lost. Throughout we have striven in these cases to ward off any adverse judgments that might form a precedent damaging to the future of the profession.

We feel that the work undertaken by this Association and the protection it affords are of such importance that no dentist in Ontario can afford to be outside its membership. Moreover, with the moral and financial support coming from a very large membership, the committee would be enabled to undertake the work of defense so fearlessly as to give the maximum security to its members.

Finally the committee out of its experience so far feels impelled to sound this note to its members, "that Prevention is an important factor in malpractice charges." The wise dentist will exercise such constant care, and take such precautions, that when unlooked-for trouble does arise there can be shown no evidence of negligence on his part.

Now, continued Dr. McLaughlin, when the financial secretary reads his report, I will be glad to move the adoption of the whole report.

Dr. Willmott then read the financial statement for the year ending April 30, 1925, as follows:

RECEIPTS:

| | | |
|---|---|---|
| Fees—1924-25—13 ..... | $ 39.00 | |
| Fees—1925-26—558 ..... | 1,674.00 | |
| Bank Interest ..... | 38.41 | $1,751.41 |

| | | |
|---|---|---|
| Cash on hand, April 30, 1924 | | 1,277.04 |
| | | $3,028.45 |
| EXPENDITURES: | | |
| Printing— | | |
| Notices of Meeting | $ 5.09 | |
| Signs for Convention | 3.50 | |
| Receipt Books | 32.00 | |
| Annual Reports and First Notices | 26.25 | |
| Second Notices | 11.28 | |
| Stationery | 18.38 | |
| | | 96.50 |
| Postage | | 5.00 |
| Legal Expenses: | | |
| Re Roach | $255.00 | |
| Re Law | 250.00 | |
| Re Everett | 250.00 | |
| Re Richardson | 25.00 | |
| Re Constitutions | 25.00 | |
| | | $805.00 |
| Treasurer's Honorarium | | 100.00 |
| Bank Exchange | | 1.00 |
| | | $1,009.55 |
| Cash on hand, April 30, 1924 | | $2,018.90 |
| | | $3,028.45 |
| Members 1924-25 | 479 | |
| Not renewed | 86 | |
| | 393 | |
| New Members 1925-26 | 165 | |
| Members 1925-26 | 558 | |
| Increase | | 79 |

Audited by Thorne, Mulholland & Co.

Dr. Willmott thereupon moved the adoption of the reports of the executive committee and the treasurer of the Legal Protective Association, which Dr. McLaughlin seconded. Carried.

Dr. McLaughlin: Questions sometimes come to the executive to this effect: How far do you go toward protecting your members? Do you ensure the member against assessment of damages if a Court case went against him? You can easily understand that for $3 a year we could not do anything of that kind. The Association ensures the members to this extent: To give the member who makes application for assistance in any way, the advice of the Executive Council, the advise of the legal counsel, the defense to be carried on, if necessary, by the executive and by the counsel, and the legal expenses in connection with that defense to be borne by the Dental Protective Association. Of course all the cases that come before your executive are not, and should not be defended. If we find that the dentist is at fault he is very plainly advised to that effect and advised to make a settlement with the complainant. But we have not gone so far as to extend our services to the payment of any assessed damages. That

may come in future years when we get a reserve fund of some $10,000 or $15,000.

Dr. Clark: Our secretary treasurer, as you know, is Dr. Walter Willmott. He is the son of his father, and I need not tell any of you his work is well done. I may say that it is only a member of the executive committee who could know the amount of time and work he has spent in those duties. It was my pleasure last year to move that an honorarium of $100 be given him, and I take as much pleasure in moving that the same honorarium be given to him this year, if it meets your favor.

Seconded by Dr. Taylor, St. Thomas, and unanimously carried.

It was then moved by Dr. Devitt, and seconded by *entire meeting*

That the same officers and executive council as during the past year be re-appointed for the ensuing year. Applause.

Dr. Paul: These cases are becoming so numerous that I just can't understand how any dentist can afford not to belong to this Protective Association, and it seems to me we should take some step forward in order to secure the dentists' position, and with that end in view the Dental Act certainly needs revising. I don't know if there is a legislation committee in connection with this Association, but if there is not it seems to me someone should take up this matter with the idea of changing the Act in this respect.

Dr. Paul made reference to the Medical Act which provides that no member shall be liable to charge of malpractice unless such action is taken within one year from date when such professional services terminated, remarking: The Dentist has no such protection at all. I am the victim of an action at the present time, which makes me more or less interested in this, based on some professional services rendered four or five years ago. You can understand a person would have no recollection, and in this case even the records are gone.

Another matter which might be taken up by this committee: Probably many of you do not know that a dentist in Ontario has not the power to write out a prescription for Codia, Cocaine, and similar drugs. According to the Dominion Act he has that privilege, but according to a Dominion Act, where the Dominion and Provincial Acts interfere with one another, the Provincial Act takes precedence, and according to the Ontario Act, the dentist has not that privilege.

Dr. McLaughlin: This is an injustice which the profession has labored under for some years. I may state that the remedying of this defect has been under consideration for the last two years, at any rate, but the Board does not seem to have got to the point where they would like to interfere with the Dental Act. I think perhaps the whole Act may be revised in the not distant future, and those items that Dr. Paul has drawn attention to, will have serious consideration.

Dr. Husband here introduced the matter of an honorarium for Dr. McLaughlin's stenographer, who he understood had given a good deal of her time to the Association's work. Dr. McLaughlin however begged that the matter be dropped, as he said he had employed outside help to take care of this work, and he wished the privilege of doing this much for the Association.

Dr. Conboy thereupon called on Dr. Arthur W. Ellis, chairman of the Oral Hygiene Committee, for the report of that committee. Dr. Ellis gave the report as follows:

Mr. President, Ladies and Gentlemen:

It gives me great pleasure in presenting the report of your Oral Hygiene Committee. Sometimes a committee does not like to report having accomplished nothing, but this year there are no misgivings. For seventeen years you have been working for an objective, which this year has been reached. We desire to express appreciation of the faithful work done by the Oral Hygiene Committee in the past. Good and happy accomplishments are usually the result of sacrifice on the part of some person or persons. The work of our predecessors in office cannot be too highly praised. The public spirited and altruistic action of the dentists of Lambton county, who took an important place in the Health Week held in Sarnia during January, demonstrated to the Prime Minister and the Minister of Health, Hon. Dr. Godfrey, that the members of this profession were willing to freely give their time for the benefit of humanity.

The appointment of the Director of Dental Services for the province of Ontario has been the big event of the year, and has made possible the active and efficient programme which has been carried into effect. Throughout the year Dr. Conboy, who received the appointment, has worked in harmony with your Oral Hygiene Committee, we as a profession cannot afford but give every assistance to his department.

I would like to show some slides dealing with various phases of the work of the new department and your Oral Hygiene committee.

It was thereupon moved by Dr. McLaughlin, seconded by Dr. Morrison of Peterboro,

THAT the Report of the Oral Hygiene Committee as presented by Dr. Ellis be accepted and adopted. Carried.

Dr. Weston A. Price, of Cleveland Prefaced His Address as Follows:

Mr. Chairman, Ladies and Gentlemen: I will study with you for a little while this afternoon some of the fundamentals in the diagnosis prognosis and treatment of the oral and systemic infections, of dental infections, and as a preface to these studies, I wish to say to you that it is my judgment that the dentistry that is practised to-day and that has been practised in the past will be largely considered a failure within a decade. And I think in the minds of many it is to-day considered a failure. I mean by that that dentistry, when it shall come to be worthy of the dental profession will prevent the caries in the tooth and the gingival infection, and will not make necessary a progress for repair but will continue for that patient the use of the normal organ with its normal function.

I find myself in the difficult situation of trying to cover more in the few minutes available than is possible. I shall ask you to think with me of some of the fundamentals as now generally practised and I think generally accepted.

Am I right that the dental practice of the present and past has been based on the assumption that individuals were comparable? In other words, the group of people that come into the office during the day are sufficiently similar so that the same general program may be applied to each? If the information that I shall bring to you is correct, we must have a different basis for judgment for different individuals.

In the second place, am I right in my general presumption that we have looked upon the danger as being measurable and discernable by the roentgenogram, on the basis that the organisms if present will in some manner burrow a hole in the end of the root, and the sides of that hole will be the measure of the quantity of infection and therefore the measure

of the danger? On that basis we get roentgenograms, and we say this patient has much infection because there is a large hole, and we get the next roentgenogram and we say there is not much dental infection because there is not much rarefaction. That is presumed then, that the disturbance if present would create a condition that will be revealed by the electric rays.

We have also assumed that individuals have each a mechanism of defense and that the mechanism of defense is rather comparable in individuals, and that therefore we can make certain of our preliminary studies and decide what is best not only for the present but for the future of that patient. I think we shall see that individuals may be just as crippled in the chemistry of the blood as in their bodies and in ways that can be discerned. I shall not lecture on that this afternoon. I will discuss that with you to-morrow.

But as we go over the slides this afternoon I want you to think with me whether or not it is not necessary for us to return back for fundamentals.

First, let me say frankly that I may seem to be in an attitude that is in some respects antagonistic to lecturers you may have during your convention by those who may teach you how to put in root fillings. But let me assure you that I am trying simply to show you where it is safe to make your operation and where it is not safe. Whether that number of individuals will be increasingly more in one group or less in another will depend largely upon our perfection of methods, and I shall discuss the methods in the light of the knowledge that I have at this time, for I think always that others may have much information that I have not, and presuming that I may have some information that they may not have.

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## DENTISTRY IN WEST CHINA

### J. E. Thompson, D.D.S.

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Thursday Afternoon Meeting

Dr. Thompson addressed the gathering as follows: Some of you will remember that in 1909 I went to West China. Before going a few will remember that I was Secretary of the University Y.M.C.A. here. It was while Secretary of the Y.M.C.A. that the idea of Hart House was formed, so that I am to-day exceedingly proud to be here to speak to you and to be in a building which we started the idea of years ago.

Since I went to China there has been more change in the sixteen years than in the 4,000 years before. I went there before the Revolution, when the Chinese were wearing queues.

When the revolution came on we were 2,000 miles inland. We were running away down river, we met a British gunboat flying the British flag. It made my mouth water to see it.

We have out there a number of graduates of the Royal College of Dental Surgeons. The first one to go out was Dr. William Adams. After him went Dr. Lindsay, then myself, and Dr. Mullett, then Dr. Anderson and Dr. Agnew.

Citing as an incident of how opposed to church division the Chinese were, the speaker said the Chinese called the Baptists, Methodists and Quakers working there "the Big Wash," the "little Wash" and "No Wash at all."

Now, continued the speaker, when we started out in Dentistry first, we tried to get some of the students to learn Dentistry, but they held back. They would come for a month or two and then leave us. One of the chief reasons for this is that the Chinese student will not carry a suitcase to carry his instruments in, as he will not have anything to do with manual labor. So we decided we would have to support the poorer kind of Chinese, to induce them to take the course.

Dr. Lindsay had a very fine fellow, but after working for a little while this boy died. Thus ended the first story of Dentistry in China.

Then came along the boy I support, and he has gone right through Middle School, through six years of University, and now is doing very fine work in our College, and teaching and also working in the hospital.

You will wonder why we need a University to carry on our work out there. We need good laymen as well as good preachers, and that is why we have dentistry in connection with the Missionary Society. In the olden days, before we had a University, we had to put up with poor kind of dental and medical assistance and poor kind of preaching.

As exemplifying the poor preachers they had, the speaker told the story of a Chinese preacher who got up on a stump and told his audience: "You are all made of mud; if you do not believe it, when you go home take a bath and look at the water when you get through."

Now in dentistry, said the speaker, we had that kind of experience too. And also in medicine. In the Roman Catholic Hospital a medical man, taking out an appendix for a man, saw his assistant, who had been there for 20 years, picking up a ball of cotton, preparing to use it on the patient.

When Dr. Whang, the boy I supported, graduated it was the proudest day of my life. At that time I happened to be dean. I knew he would be a better man than I had been, because he knows the Chinese language, because he is Chinese himself and knows how to get along with them. He knows how to teach the difficult subjects in the Chinese language.

Another thing, he can do things that a foreigner can not do. At the time of the Revolution there was a story that underneath the Church we had a little boy and took out his eyes for the eye medicine we needed. When the Boxers came along they tore down our church. So you will understand we have to go slow to get bodies to dissect.

Referring again to Dr. Whang, the speaker said: He is coming home next year to study, and the proposition I wish to put to you this afternoon is to support this fellow when home on furlough for two years. It will cost about $1,000 per year, and I feel I am quite right in asking you to do this, since I supported him heretofore.

Every one of you will be canvassed by the committee that have been elected to look after this, and I hope you will be liberal, and it is understood that anything that goes over the $2,000 mark will go to the College in Chingtu—and we certainly need it.

Col. Thompson, the chairman, thereupon called for the report of the nominating committee. This was given by Dr. Ross Thomas, the convenor of that commitee, as follows:

Gentlemen:

Your nominating committee beg to submit the following:

Hon. President—W. G. Thompson, Hamilton;

President—J. C. Devitt, Bowmanville;

Vice-President—J. A. Bothwell, Toronto;

Archivist—C. A. Kennedy, Toronto;

Secy-Treasurer—F. J. Conboy, Toronto.

Board of Governors—3 years — (Re-election) — O. S. Clappison, Hamilton, E. R. Zimmerman, Toronto, in place of W. L. Chalmers.

Oral Hygiene Committee—R. J. Reade, H. E. Eaton, A. W. Ellis, F. C. Husband, J. C. Livett, all of Toronto.

Advisory Committee—R. G. McLaughlin, A. D. A. Mason, Wallace Seccombe, Harold Clarke, R. G. McLean, Walter Willmott, all of Toronto.

Signed by committee — Ross Thomas, R. L. Sprott, Spaulding, Bonnycastle.

Dr. Thomas moved the adoption of the report.

Upon request of Dr. McLaughlin, Dr. Willmott's name, which had been inadvertently omitted, was added to the Advisory committee.

Dr. Taylor then seconded adoption of the report, and carried.

Dr. Devitt was asked to come forward and take the chair and proceed with the meeting.

Applause greeted his appearance on the platform, and he addressed the association as follows:

It is a great honor, indeed, to be elected to lead this great body of men, the Ontario Dental Association. I will do all I can to follow in the noble footsteps of my friend, Col. Thompson. I know how the men on the committee can work, and I promise you a good convention next year.

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### Friday Luncheon Session at Great Hall, Hart House, University of Toronto.

Dr. A. W. Ellis, who presided, called for a few words from Dr. Harry S. Thompson, the Field Secretary of the Canadian Dental Hygiene Council. Dr. Thomson addressed the gathering as follows:

Mr. Chairman, Ladies and Gentlemen: They told me I might have two minutes for the Canadian Dental Hygiene Council. The Canadian Dental Hygiene Council you are pretty familiar with. For those who don't know about it, I want to tell you it is an organization made up of dentists and laymen, certain laymen who have come into contact with the needs of dental health, and they have come to us as dentists and said: "Oral Hygiene is not purely a Dental problem, any more than general health is purely a problem of the physician." So we have organized the Canadian Hygiene Council, and we have officers appointed who are laymen—Lord Byng is patron. Hon. S. C. Mewburn is our president. Mr. Reed of the London Life is our President.

The speaker gave the rest of the officials of the Council.

You see it is not a Dental organization; it is a laymen's organization, with the object of inspiring the people with the need of dental service, to have the people go to the government and say: It is the Government's duty. We are going to the Government now for a grant of $10,000 to carry on this work, and if any of you have any friends at Ottawa who are intimately connected with the Government at Ottawa, if you will go home to-night and write them a little letter and say you are in sympathy with the Canadian Hygiene Dental Council it would have a lot of bearing down there. We start functioning the first of January and we are carrying on this work. It is simply carrying on educational work to the public and to the dentists, and we hope it will be a success. We hope we will get our grant, which will enable us to carry on this work very much farther.

Dr. Conboy was then asked to introduce the next speaker, which he did as follows:

Mr. Chairman, Ladies and Gentlemen: The task which I have to perform to-day is indeed a most pleasant one, for I am to have the honor of introducing to you Miss Evelyn C. Schmidt, who is a Director of the Department of Dental Health Education, American Dental Association. Miss Schmidt has been with us for several days, has been helping those who are anxious for information in regard to Dental material—and she has had her exhibit here. In the time that she has been here she has won the esteem and confidence of the Ontario Dental Association, and she will serve as a strong link binding together the Ontario Dental Association and the American Dental Association. We have many friends in the United States. When we go to the American Association we will be pleased to visit Miss Schmidt, and to find out what new material she has to assist us in the province of Ontario.

Miss Schmidt is well qualified to carry on the work she has carried on for the last year. Previous to that she was in charge of the Oral Hygiene Massachusetts Health Department. We know the great work she has undertaken to do in connection with the Ontario Dental Association is in real good hands. Her work is most important—that of Dental Education, that of Prevention. Prevention is the great activity in connection with public health work. Cure of course is important, but care at best is repairing of damage already done, and prevention accomplishes far better results, preventing sickness, pain, the loss of time and the loss of money.

It gives me the very greatest of pleasure, Mr. Chairman, Ladies and Gentlemen, to introduce to you Miss Schmidt.

Miss Schmidt then addressed the gathering as follows:

Mr. Chairman, Members of the Ontario Dental Society, and Guests: It is an honor to be with you. I have been asked by Dr. Johnson, president of the American Dental Association, and by Dr. King, the general secretary, to bring greetings to you from the officers and members of the American Dental Association, and to extend to you a hearty and cordial invitation to attend not only the annual session, which is to be held September 21-25, 1925, at Louisville, Kentucky, but also the meeting of the Seventh International Dental Congress, which will convene August 23-28, 1926, at Philadelphia. The section officers have been appointed and the programs are well under way. Within a short time, detailed plans will be sent to the officers of your provincial societies.

May I now tell you how much I appreciate the opportunity of being here. The exchange of ideas and the discussion of aims, methods, policies and results should serve as a shortcut toward our ultimate goal — the conservation of teeth and the preservation of healthy mouths.

I shall attempt to sketch briefly the problems that we are facing in the United States to-day, how we are meeting these problems and what we are hoping for the future.

In the States, as in Canada, there is a lack of adequate dental service. Accepting as a standard the fact that there should be one dentist for every 1,000 people, there are only three states coming under this category. Even if we were to allow 1,400 people for every dentist, which some feel would supply adequate service, only five more states could be added. This means, therefore, that only eight of the forty-eight states have service that can be considered adequate. Even these states present a problem within them-

selves; for though the number of dentists in proportion to the population may be all that is desired, the dentists congregate in the cities, leaving the rural communities without service. This fact must of necessity play an important part in any dental health program, whether national or statewide. To compensate for and to supplement the existing condition, 26 states have passed laws licensing dental hygienists to practice. Unfortunately, the larger percentage of the dental hygienists are practicing in private offices, though every year shows an increase in the number who are entering the field of public health. Several states have introduced interesting legislation, which is worthy of attention. In New York State, the educational system allows state aid in an amount not to exceed $700 as one-half the salary of a dental hygienist to be employed in school work, while permission is granted to a limited number of school dental hygienists to take a six week's summer course given to school nurses at one of the state normal schools. In Pennsylvania, there is a similar provision of law. Moreover, in 1926, that state will require one year of collegiate work prior to the professional study. Already there is a law that compels every dental hygienist to spend one year in public health work before she is allowed to enter private practice. I am citing these examples to show the general trend of the dental situation; namely, that states recognize the fact that there are not enough dentists to carry on a dental public health program; that the dental hygienist has a place in the program, but that there must be legislative measures passed during this embryonic stage of her existence which will encourage communities to employ dental hygienists and will make it remunerative enough to encourage girls to enter this field. We have, therefore, as agents in our program, the dentist and the dental hygienist; also the school nurse and the school teacher. Concentrated instruction in dental health should be introduced into all normal schools, training schools for nurses, and public health nurses' training courses, in order that these agents may be better informed in the fundamentals of dental health, in the proper evaluation of the various factors and in methods of presentation.

Having listed the agents who can carry on a dental health program, we may ask: what form should it take? During what period should the greatest energy and expense be expended? Statistics are available to show that from 30 to 65 per cent. of children who are otherwise normal have defective teeth. We may assume that every child between 5 and 15 years needs dental care. Wholesale corrections are impossible, and impracticable; first, because there are not enough dentists, and secondly, because corrections per se will never solve the problem. Moreover, we believe that the function of the state is to educate people, to point out to them their responsibility in health matters rather than to try to provide facilities for rectifying these conditions except in the case of the indigent. Our only logical procedure is, therefore, one of education looking toward prevention. This may result for a period of time in what may seem to be neglect. A similar situation was faced when programs for the reduction of infant mortality were concentrated on keeping the well baby well rather than curing it after it became sick. Many people decried the neglect of sick infants, losing sight completely of the bigger problem in which time is an important factor. Notwithstanding, most communities, according to Dr. S. Josephine Baker, Consulting Director of the U. S. Children's Bureau and Consultant in Child Hygiene for the Public Health Service, persisted in their programs which had for their object keeping babies well, and the

result was an almost immediate decrease in the incident of illness and death during infancy. With the dental problem, there will not be the same immediate results, but a program of prevention will in time show an improvement in the dental condition among school children where conditions are most alarming. What, therefore, is an administratively and physiologically sound dental health program? It should be carried on in prenatal clinics, in pre-school clinics, in the public schools, in the offices of private practitioners, in industry and in hospitals. Obviously, the school is the ideal place because of the fact that large groups are organized and are under auspices that allow for uniform inspection, follow-up and teaching over the period of years which are habit-forming and impression-taking. By this, I do not mean that we should not recognize the fact that theoretically our instruction and effort must be concentrated on the prenatal and pre-school periods, but that practically it works out so that we stress our efforts in the schools.

A school dental health program should be based upon education and prevention, and might allow for emergency work for all children and corrective work for indigent children. I do not wish to be misunderstood and have you feel that I am voicing the sentiment of any organized group; for, in reality, I am merely stating my opinion—not with the idea that it will carry weight, but with the hope that it may bring about a discussion that will lead to constructive plans. As far as the educational phase is concerned, all children should have instruction in dental health yearly as part of the general health program. The instruction should be positive rather than negative in the preparation, should be adapted to the grade and should be correlated with other subjects in the curriculum. I have noticed that in many communities high school pupils do not have health instruction, which, to my mind, is a grave error, since they are the potential parents of a few years hence. Instruction in the grades should include the importance of daily cleanliness, the choice of diet, which should include tooth-building foods, foods requiring mastication and detergent food; and also the advantages of early conservative preventive dentistry.

It is the consensus of opinion in the States that when a dental clinic for school children is introduced in a community, the work should be limited to the children in the lower grades and that preventive dentistry should be practiced. This is so elastic a term that no two individuals or groups will agree on a definition and its application without making many qualifications. The Massachusetts Dental Hygiene Council outlined the following as comprising preventive dentistry, arranging the steps in order of importance. Their standard has been accepted by the Massachusetts Department of Public Health.

1. Adequate inspection and follow-up. This means the examination of the teeth and adjacent tissues of the mouth, preferably by a dentist; but which may be done by the nurse, physician, dental hygienist, school teacher or the mother herself. School inspection should be made two or three times a year in order that there may be a check-up on the cases needing attention.

2. Care that will insure surgically clean mouth. Since abscessed teeth are a menace to health, any that are in this condition or that cannot be saved should be extracted.

3. The routine use of silver nitrate, especially in the fissures of the first permanent molars.

4. The placing of simple fillings in deciduous teeth.

Many communities in other states work along this line in their school dental clinics; while others, of course, include all types of reparative work, in some instances orthodontia being included also.

From a national point of view, we can never hope to standardize any policies or procedure for dental health education and dental service throughout the country. Owing to the fact that every state is a separate unit, which frames its own laws pertaining to health. For this reason, any national group acts in a demonstrative and advisory capacity rather than in a mandatory one. This holds true with the U. S. Public Health Service, which is our federal public health organization, as well as with unofficial health groups. It also applies to the work of the American Dental Association. Our Association is composed of dentists who become members of their local dental society and by so doing automatically join the state and national organizations.

We urge that a committee on mouth hygiene and public instruction be appointed in every state society, and that this committee work with and through their state department of public health and state deparment of education, as well as unofficial health and civic groups, to further dental health propaganda in the state. So far, twenty-eight of our states have such committees. Their programs vary. In some instances, they have created sufficient sentiment so that a full-time dentist or dental hygienist has been appointed to work with the state department of public health or of education throughout the state. There are now ten states having these full-time workers. In other instances, at their suggestion, the governor has appointed a dentist to act in an advisory capacity on the health council on matters pertaining to dental health. One state society, through its council, has purchased two films on dental health, which have circulated in the schools throughout the state. Two councils have conducted state-wide poster campaigns, awarding prizes to the schools submitting the best posters.

The Department of Dental Health Education fits into these programs by making suggestions and supplying material. The Department which was established a year ago purposes to study the various mediums of education and the material which is available from various sources, and to develop material of its own. In short, it plans to act as a service station for dentists and others interested in the educational phase of the dental problem—a place to which they may write for information or material or in order to be put in touch with people who can fill their needs.

Dr. Ellis thereupon extended the thanks of the Convention to Miss Schmidt, reciprocated the greetings she brought, and said the Association would be glad to number her among its Chicago friends, of whom it had already quite a number.

The Doctor further expressed the hope that in the future the Association might have the pleasure of another visit from Miss Schmidt.

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## Montreal Fall Clinic

The first meeting of the Montreal Fall Clinic under the auspices of the Montreal Dental Club will be held in Montreal on Thursday, Friday and Saturday, November 5, 6 and 7, 1925.

Secretary A. L. WALSH, D.D.S.,
c.o. General Hospital, Montreal, P.Q.

# Report of Dental Convention at Winnipeg, May 12-15th, 1925

E. Roy Bier, D.D.S., Winnipeg.

About two hundred dentists registered at the Fort Garry Hotel and enjoyed the first real dental convention after a lapse of nine years. We really mean *enjoyed* the convention. Many practitioners, including some men of mature years and one man of fifty years of practice, told me it was the best dental convention he ever attended. Got more information of the right kind, more dentistry, larger vision, greater courage, and an inspiration to give better dentistry in the future.

After registration, our Mayor gave the address of welcome to our visitors. He emphasized Winnipeg as the geographical centre of the country, midway between the East and West, and when the Hudson's Bay railway is finished we will be a seaport for the South. After inviting the guests who wished to attend any municipal gatherings or see our municipal buildings, the Convention was declared open.

At 10.30 Dr. Price spoke on the Newer Knowledge of Oral Expression of Dental Infections. Contrary to the belief of many men, this scientific subject was clearly explained in the plainest language. Some men had an idea that these lectures would be crammed full of technical terminology and the meaning or gist of the matter would be about as clear as mud, or as interesting as a latin lecture. Those fellows didn't know Dr. Price. He isn't a half educated man, with just sufficient knowledge that he has to use phrases and words that we don't know the meaning of, so we will think what a wonderfully well-educated fellow he is. He is away beyond that type. He wants to benefit his audience. His objective is to benefit humanity, and he gets his knowledge across to the other fellow. He establishes contact with his listeners. He makes you feel he is right.

In the same day other things happened. There were papers and clinics, but I will speak of these later. I have started to talk about the impressions left by Dr. Price, and I'm just beginning to tell you about him. Why? Because I want all those one hundred men who should have been here and weren't here, I want them to know that two hundred men who were here feel they missed the most important convention in their lives. Twenty-five per cent. of those absent may *not* have been able to attend, but seventy-five per cent. would feel it would not be worth the time or money to attend. How shall I tell you what he told us? There were certain salient points to remember, of course, about degenerative diseases, inherited susceptibilities; and other patients whose resistance is high and can combat Streptococci bacteria, until they meet with the overloads of life such as pregnancy, influenza, pneumonia, or contagious diseases. Then these Streptococci bacteria start and proliferate because these overloads have lowered the patient's resistance. The methods of diagnosis were interesting. Most important of these were the blood chemistry; Determination of free ionic calcium; Alkalinity: polymorphonuclear leucocyte count, etc. I would advise anyone interested to buy his two text books. Study them, and then you will find out what he told us. But he told us so much more

definitely; simplified any difficulties in the interpretation of his findings by answering questions, etc. Then Dr. Maves of Minneapolis preached the finest dental sermon some men ever listened to. His clinics were of the highest order, his explanations of his technique very complete, and his personality made for him not a few friends, who bribed him into future promises of return visits, which may result in fishing and hunting trips.

The papers read by Dr. Warriner on the Business and Esthetic Side of Denture Prosthesis was an excellent paper and showed a great deal of time and study. Dr. J. F. Morrison was particularly interested in the esthetic field and made an elaborate study of color and combinations, judging various results and shades. His whole paper was carefully prepared and thought out.

The Prosthetic Study Club of Winnipeg worked in five groups: A: B: C: D: E. Full denture work in its entirety. This work was so well presented that if any man got the idea of this technique he would have been more than ten times repaid for all his time lost and his expenses into the city. The clinics were all good; showing a practical knowledge and experience of the clinicians. Dr. Garvin's clinic on gum surgery was highly commended. Dr. Browne's clinic on preventative orthodontia; Dr. Forsyth's clinic on Black Anaesthesia; Dr. Brown on 3rd Molar Technique; Dr. Johnson of Moose Jaw, showing replacement of lower on one side with teeth missing. Really very clever and practical. Dr. Grahame on Periodontia; Dr. Campbell of Saskatoon, Alveolotomy Correcting Protrusion; Dr. Harwood, Synthetic Porcelains; Dr. Banning, X-ray Interpretations; Dr. C. J. F. Jackson, Periodontia. Dr. Walcher of Yorkton also had a clinic.

The men clinicing in Winnipeg Prosthetic Club were the following: Drs. D. A. McCarten, Wright, J. W. McLeod, J. F. Taylor, Stinson, Ezard, J. F. Morrison, H. J. Maurkley, Hodgson, Stratton and McKenzie.

The following were the officers elected for the Western Canada Dental Society:

Vice-Presidents—M. H. Garvin, Winnipeg; Dr. Doyle, Calgary; Dr. Cameron, Swift Current.

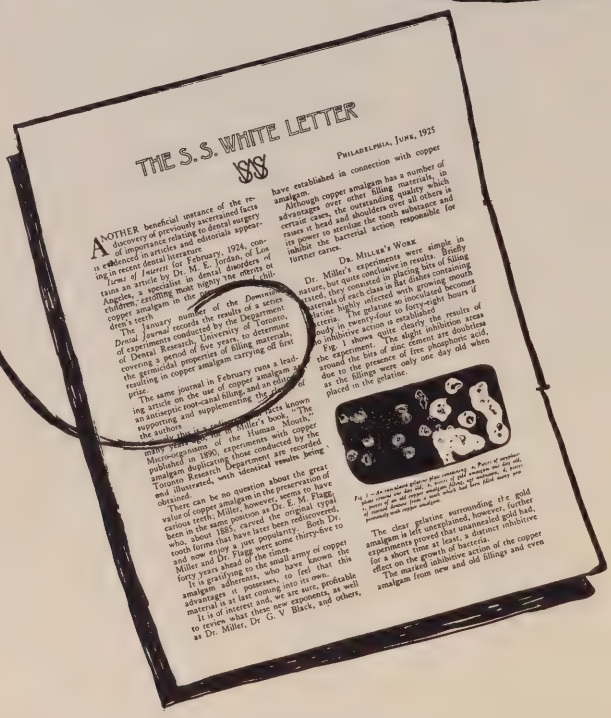
Secretary—Dr. Winthrope, Saskatoon.

Treasurer—Dr. Manly Bowles, Winnipeg.

The President will be elected from the province in which the next convention will be held.

# The CANADIAN Authority

The January number of the *Dominion Dental Journal* records the results of a series of experiments conducted by the Department of Dental Research, University of Toronto, covering a period of five years, to determine the germicidal properties of filling materials, resulting in copper



THE S. S. WHITE LETTER

PHILADELPHIA, JUNE, 1925

ANOTHER beneficial instance of the re-
discovery of previously ascertained facts
of importance relating to dental surgery
is evidenced in articles and editorials appear-
ing in recent dental literature.

*Items of Interest* for February, 1924, con-
tains an article by Dr. M. E. Jordan, of Los
Angeles, specialist in dental disorders of
children, extolling the virtues of
copper amalgam in the filling of children's teeth.

The January number of the *Dominion Dental Journal* records the results of a series of experiments conducted by the Department of Dental Research, University of Toronto, covering a period of five years, to determine the germicidal properties of filling materials, resulting in copper amalgam carrying off first prize.

The same journal in February runs a leading article on the use of copper amalgam as an antiseptic root-canal filling, and on other pages supporting and supplementing the views of the authors.

Many paragraphs of Dr. Miller's book, "The Micro-organisms of the Human Mouth," published in 1890, experiments with copper amalgam duplicating those conducted by the Toronto Research Department are recorded and illustrated, with identical results being obtained.

There can be no question about the great value of copper amalgam in the preservation of carious teeth; amalgam in the process, however, has been in the same position as Dr. E. M. Flagg, who, about 1886, carved the original types and now forms that have later been rediscovered, Miller and Dr. Flagg were some thirty-five to forty years ahead of the times. Both Dr. It is gratifying to the small army of copper amalgam adherents, who have known the advantages it possesses, to feel that this material is at last coming to its own.

It is of interest and we are sure, profitable to review what these new expositors, as well as Dr. Miller, Dr. G. V. Black, and others, have established in connection with copper amalgam.

Although copper amalgam has a number of advantages over other filling materials, in certain cases, the outstanding quality which gives it head and shoulders over all others is its power to sterilize the tooth substance and inhibit the bacterial action responsible for further caries.

DR. MILLER'S WORK

Dr. Miller's experiments were simple in nature, but quite conclusive in results. Briefly stated, they consisted in placing bits of filling materials of each class in flat dishes containing gelatine highly infected with growing mouth bacteria. The gelatine so inoculated becomes ready in twenty-four hours if no inhibitive action is established.

Fig. 1 shows quite clearly the results of the experiment. The slight inhibition areas around the bits of zinc cement are doubtless due to the presence of free phosphoric acid, or the fillings were only one day old when placed in the gelatine.



Fig. 1.—In the inoculated gelatine plate, containing: A, Pieces of amalgam; B, pieces of gold foil; C, pieces of gold crystalloids; D, pieces of zinc phosphate cement; E, pieces of silicate cement. The bacteria have been nearly overcome by the copper amalgam.

The clear gelatine surrounding the gold amalgam is left unexplained, however, further experiment proved that unannealed gold had, for a short time at least, a distinct inhibitive effect on the growth of bacteria.

The marked inhibitive action of the copper amalgam from new and old fillings and even

*Dominion Dental Journal* combines the latest in technique information, dental education, society and personal news—in the smallest possible space.

# Editorial

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**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

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Vol. XXXVII TORONTO, JULY, 1925 No. 7

## Educating the Dental Assistant

Dr. Kells in his most interesting of all dental works in discussing educating the dental nurse has somewhat the same views as those held by all kinds of technicians in the years gone by. We here quote in full what he says.

Right here I would state that some dental colleges have a "Dentists' Assistant's Course for the training of young women in the duties of a dental office assistant" and it runs "one school year."

I cannot imagine how any such trained assistant could be of any value in my office. Everything in my office has to be done in just one particular manner, and in none other. Would any college in the world teach her that manner, or would it not be necessary for her to *unlearn* her ways and learn mine? Would she have been taught to report for duty at seven-thirty in the morning, or would she have been given *very different ideas* upon the subject?

Would she know where to put, and how to keep, the myriad of instruments in my office, and know which ones I wanted for certain operations? Certainly not; I'd have to teach her that.

As far as I can see, if such a trained woman came into my office, all she would know, that would be of value to either of us, would be the names of the various instruments and how to sterilize them, and not a blessed thing else.

Now, then, I could start in with a young girl, say seventeen years old, perfectly green, and at the end of three months of the intensive training that she would get, she would be a pretty good assistant, and at the end of

six months she would be very capable—that is, if she ever would be. I would have taught her my way from the start; she would suit me, and I would never hear of how this or that was done in some certain college in the north.

Why once, a long time ago, I "took" a young lady who had been a dental assistant before, and, believe me, I did not keep her very long. I could not break her of what I considered "bad methods," and I occasionally would hear of how Dr. X managed things, and this did not suit me at all, and so it was a case of untrained girls for me.

It is interesting, but in the main belongs to past ages. Time was when engineering, forestry, pharmacy, dentistry, carpentry, etc., could only be learned by serving an apprenticeship under someone who was himself a practising engineer or dentist. Notwithstanding all that can be said in favor of such methods of training there is no real education in such a training. Dr. Kells is not alone in his opinion of how an assistant should be trained. The trouble is his assistant when she has spent years in his office has few if any principles which would be useful in any other place. If his assistant came to him knowing the principles of arranging all kinds of tools and instruments and gradually applied them to his office equipment even his office might work more smoothly and efficiently. Apply the following rules to instrument arrangement and note the effect.

1. The most frequently used instruments should be in the most convenient places.
2. Instruments for the same operation should be kept together.
3. Instruments should be kept in order of their use.
4. The order of size and number should be recognized where possible.
5. Instruments or equipment which are sharp, heavy, caustic, or poisonous should not be placed above the shoulder line.

Besides knowing the names of the instruments used in dental practise a well trained dental assistant ought to know when she leaves college the gross anatomy of the teeth, the methods of purchasing and preparing filling materials, receiving and dismissing patients, telephoning, bookkeeping, marking charts, correspondence, typing, administration of anaesthetics, caring for sick patients, as well as something about prosthetics. Dental assistants are not trained for specialists, but there is no dental office in which their services are not infinitely better than those of an untrained girl.

## Infractions of the Dental Act Punished

The Franco-American Institute Dentaire, Montreal, was fined $200 as a second offence for practising without a license. Since being fined the first time last January the Institute aimed to evade the law in several ways, but was finally brought to justice. The Court also handed down judgment in the case of Dr. Mederic Masson, who questioned the right of the disciplinary committee of the Dental Board to command his presence before them. He lost his case. Dr. Masson had been conducting objectionable advertising in the press of Montreal. These decisions and those in Ontario would indicate that the courts are inclined to interpret the dental acts as was intended by their designers.

# Dominion Dental Journal

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S. W. BRADLEY, D.D.S., L.D.S.
President of the Canadian Dental Association, Vancouver, 1924.

# A Message to the Dental Profession

George Kerr Thomson, D.D.S., F.A.C.D., President Canadian Dental Association.

Owing to circumstances beyond the control of the Finance Committee of the C.D.A., it was impossible to publish the proceedings of the Vancouver meeting. Now, through the kindness and generosity of the Editors of "Oral Health" and "The Dominion Dental Journal," they are published in this number of these journals instead of printing them serially as heretofore. They will thus be more convenient for reference, and it is hoped, be of interest to the members of the profession.

In a former report of the meeting, appreciation of the enthusiasm and enterprise of the British Columbia committees to which in a large measure was due the success of the meeting was expressed. Although no definite organization of committees has been arranged considerable correspondence and discussion has been conducted by the President and Secretary with officers of the Federation Dentaire Internationale, the International Dental Congress and the American Dental Association, with regard to the European members of the profession visiting Halifax en route to Philadelphia to the I.D.C. in August, 1926, and invitations from the Lieutenant-Governor, Premier of Nova Scotia and Mayor of Halifax, have been forwarded through the British Dental Association, the American Dental Society of Europe and the F.D.I.

With a view to advertising the Maritime Provinces and the C.D.A. meeting, the C.P.R. is arranging to show films at the meetings of the American Dental Society of Europe, British Dental Association and the F.D.I., and we have suggested to the Company the possibility of showing them at the Louisville meeting of the American Dental Association as well as meetings of the various dental societies from Quebec to the West. The idea of broadcasting at a later date, information about the meeting and our provinces, is under consideration.

Dr. Nolin, of Montreal, who recently spent a few days in Halifax on the occasion of the conference of Canadian Universities, is enthusiastic about our city, and has promised to send "boosting" material in French and English to the dental journals, and to do everything possible to arouse interest in our 1926 meeting among the profession in Quebec and France.

The matter of representation of Canada on the F.D.I. and I.D.C. is also receiving consideration as well as the revision of our Constitution and by-laws as directed by the Association at our Vancouver meeting.

A personal appeal to Provincial representatives to contribute brief articles to the Dental journals regarding the 1926 meeting has been made, and all members of the profession are asked to send suggestions as to date of meeting, programme, etc., to the Maritime committees, either through the columns of the journals or directly to the President or Secretary.

We realize that this meeting will give members of our profession in Canada a most excellent opportunity to nationalize Canada from the

dental standpoint, and the co-operation of every member in doing this, and incidentally making the 1926 meeting the largest and best ever, is most earnestly requested.

It is quite evident that without co-operation, it will be impossible to do so, and on behalf of the members of the profession in the Maritime Provinces, I ask your sympathy and support. Do not forget that the success of this meeting means the recognition of national Canadian Dentistry throughout the world.

The magnificent university buildings on the shores of the most beautiful North-West Arm, where if hotel accommodation is insufficient meals and lodging will be furnished at Shirreff Hall, have been placed at our disposal during the meeting. Within a few hundred yards are boating and yacht clubs, where salt water bathing, canoeing, tennis, dancing, etc., may be indulged in. Three golf courses within five to thirty minues will also be available for private and tournament games. In fact, every summer sport is most conveniently available, and for those who wish to spend their holidays in Nova Scotia, seaside and country summer resorts are also available. Further and definite information with regard to these will be furnished by the Nova Scotia Publicity Bureau, Halifax, but early application is advisable. Our streets and roads in the Maritime Provinces are in excellent condition for motoring.

This message is simply intended to inform the members of our profession of what has already been done, and to suggest that co-operation is necessary to make the Canadian Dental Association a most useful and representative organization. Again I ask you, one and all, to assist us. Suggestions as to summer tours, including the International Dental Congress in Philadelphia and the Canadian Dental Association in Halifax will be gladly received and published later.

Personally, I assure you I appreciate exceedingly the honor of having been elected President of our National Association and thank you.

Sincerely,
GEORGE KERR THOMSON.

Dr. J. Stanley Bagnall, Secretary-Treasurer,
34 Larch Street, Halifax, N.S.

# Canadian Dental Association

## Address of Welcome by Dr. W. S. Watson, of Vancouver, President of British Columbia Dental Association.

*Mr. Chairman, Ladies and Gentlemen:*

I consider it an honor to be President of the British Columbia Dental Association for 1924, and doubly so because of the conspicuous occasion which practically brings our convention year to its close. It is part of my official duty ,and a great pleasure, on behalf of the British Columbia Dental Association to extend greetings and welcome to our brother Dentists from the mid-west, and the eastern provinces of the Dominion, and to the boys from across the line, to what we look forward to be one of the greatest conventions that the Canadian Dental Association has ever yet held. In using the word great, I do not mean to suggest that in numbers it will outclass some of the conventions that many of you have attended in the East, but in efficiency and in capability. I believe we have in our midst some of the greatest and foremost representatives of our Profession, and largely through them this Convention is going to be made more than worth while for us all.

I have great pleasure in extending greetings and welcome to our brother Dentists from across the line, a number of whom have come from Washington, Oregon and California, who are clinicians and operators of a very high standard. We extend to you our glad hand as you come to study with us extensive research work, and to assist in demonstrating the latest achievements of modern dental science that have been worked out for us by our greatest leaders during the last year or two. It calls for no small degree of sacrifice for some of these boys to leave a heavy practice and come on our invitation, and at their own expense, and join with us in an all-Canadian Convention. It demonstrates to us a brotherly feeling that we in British Columbia greatly appreciate and admire.

I cannot but help think of the great meeting that was held in 1921, when Washington, Oregon and British Columbia met in convention in this city, when such a fraternal spirit was established as never before was experienced in the history of dental circles in the North-West. I trust that this great heart-to-heart feeling will continue, and just as the great imaginary line extending from the Atlantic to the Pacific, dividing, yet not separating, two great nations, with no form of defense on either side from a national standpoint, I trust that this will continue to be an example for us that no barrier, no matter how great or small, will ever be erected that will tend, even in the smallest degree, to sever the great link that binds us together in one great fraternal brotherhood. We most heartily welcome you and trust that this Convention will be one that will be most enjoyable and profitable for you in every way.

To you who have come from the mid-west and eastern part of Canada, I am delighted to have the pleasure of welcoming you. Some of you have come two and three thousand miles to join in this Convention, to exchange greetings, and assist in demonstrating various phases of technique in operative and prosthetic dentistry, to link up the East and West in greater

bonds of friendship and fraternity and to establish greater co-operation in furthering the underlying principles of our profession throughout the Dominion of Canada.

A Convention of this nature is one where we meet to give and to take, and it is up to us individually as to the benefits we may derive. A story is told of a rooster who one day wandered from the usual limits of the barnyard, and while wandering in a foreign land, came across a large ostrich egg. He was amazed on finding an egg of such size, and after a great deal of study, as though a happy thought struck him, he started to roll the egg into the barnyard, where he once began to crow and crow with such great excitement that all the hens for hundreds of yards in every direction, came scampering to the barn-yard to see what it was all about, and after getting them all quieted down, he said, "Now, hens, this is a sample of what they do elsewhere; in the future I want you to let us see if you can't do better." Men—let us take the tip.

I have heard some very pleasant comments on your journey westwards. Many of you have crossed the great Rocky Mountains, possibly for the first time, and, no doubt, your hearts have throbbed with delight on leaving the long expanse of prairie-land to wind up into the foothills, and in the space of a few short hours, to find yourself in the midst of a veritable paradise, and if you are acquainted with the works of Robert W. Service, our great western writer, probably some of his lines would have passed through your mind, and when you return to your homes in the East, you will be glad to say, "Yes, I have," in reply to one of the questions he puts to you in the "Call of the Wild", when using the words, "Have you gazed on the naked grandeur, where there is nothing else to gaze on; Set pieces and drop curtain scenes galore. Big mountains heaved to heaven, which the blinding sunsets blazen, Black canyons where the rapids rip and roar."

It was about this time in your westward journey, you began to realize that you were actually "out somewhere, where the Great West begins." As those great engines puffed and groaned, carrying you up into the midst of that wonderland of snow-capped peaks, "Which the blinding sunsets blazen," from whence you looked out across the visioned valleys with the silver streams streaking through them and the waterfalls tumbling down the mountains on the farther side, how you longed to be out there and enjoy such sport as that country might afford. It was then that you felt your inner self responding to the "Call of the Wild." My dear friends, that was nothing more or less than the spirit of the Great West, as though with outstretched arms, bidding you welcome.

Some of you no doubt longed for your journey to end quickly; others that it would go on forever; but we hope on arriving in Vancouver you have felt a response to the far-reaching call, that has echoed and re-echoed across the Continent for the last two years—"Welcome to Vancouver, for Vancouver most heartily welcomes you this year." But greatest of all is the welcome that goes out from the hearts of the boys of the British Columbia Dental Association. We are delighted to extend to you the glad hand today, and trust that you will enjoy not only a very pleasant sojourn, but a very profitable experience, and that pleasant thoughts may linger long in your memory of the Canadian Dental Association Convention in Vancouver in 1924.

I trust that every one of you will inject as much "pep" into this meeting as you can. The more pep you put into a meeting of this character, the greater will be the reaction, and we will go back to our practice better equipped to meet the ever-increasing demand falling on the modern dentist.

# Dr. S. W. Bradley, Ottawa

*President Canadian Dental Association, 1922-1924.*

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**Read before the Canadian Dental Association, Vancouver, 1924.**

According to custom, it is my privilege to address you as President of this Association. I feel deeply grateful for the honor conferred upon me, and *appreciate* my meagre qualifications to fulfil the duties of my office. Nevertheless, I shall try to do my best, and I hope my shortcomings and my errors will be censored lightly.

To our members and guests, I extend a most cordial welcome.

Those of our profession who have come from the Provinces down by the Atlantic, from old Quebec and Ontario, from the rolling Prairie Provinces, and have crossed the mountains to attend our meeting in this beautiful and progressive City of Vancouver, appreciate the kindness and hospitality of our confreres in the Province by the Pacific sea. Such a meeting as this is in entire accord with the name and policy of our Association. We wish to have our members well informed professionally, concerning dentistry, as practiced all over Canada, and we are also trying to promote unity, good-fellowship, and co-operation among the members of our profession from Coast to Coast.

This thought is very well expressed in the following paragraph which I have taken from the Bulletin issued some time ago by our local Executive:

"There is, perhaps, no one thing more vital in the economic and professional life of Canada than that there be a unity of feeling and of understanding between its more widely separated peoples. No country, and in this respect no profession, can long endure and continue to deliver the obligation which has been imposed upon it, unless there exist between the factions something which tells them of each other; something that places the welfare of the whole in a position of paramount importance as compared with the welfare of the local section."

During my term of office, nothing of outstanding importance has arisen to interest us as a profession generally. We appear to have been resting after our effort during the war years, and the unsettled period which followed them. A sort of calm after the storm has settled over our ranks.

The most outstanding event which has occurred is perhaps the recent formation of the Canadian Dental Hygiene Council. This organization has been granted a Dominion charter, and as soon as it is completely organized, financed, and functioning, it will carry on educational work among the laity in dental hygiene. It will do in Oral Hygiene what the Canadian Social Hygiene Council and the Canadian Mental Hygiene Council are doing in their respective spheres.

Heretofore, the Canadian Oral Prophylactic Association has been carrying on this work and deserves great credit for what it has accomplished in teaching Oral Hygiene to the people. It has also done valuable research work in the Department of Dental Research of the University of Toronto in determining the germicidal properties of the so-called germicidal cements; the germicidal properties of amalgams, particularly copper amalgam, and the permeability of the cements including the silicates. It has classified the bacteria found in and around diseased teeth, paying

particular attention to the streptococci, particularly the streptococcus viridans. Some experimental work on diet has been accomplished too in the research work of the C.O.P.A.

This organization is entirely self-supporting from the royalties received from the sale of Hutax products and must not be confused with the Canadian Dental Research Foundation which is supported by voluntary subscriptions from Canadian dentists. The Foundation has also done good work, but has been hampered somewhat by the lack of funds, and has published a series of valuable bulletins covering important phases of dental practice and research.

The intention of the promoters of the Dental Hygiene Council is, that as soon as it is fully established and working, it will take over the educational work now being carried on by the Canadian Oral Prophylactic Association. One great advantage that the Dental Hygiene Council has, is that it is an organization of public spirited citizens who are not dentists, but it cannot be a success without the dental profession's hearty co-operation and generous support back of it. It may carry more weight, and influence more people to improve their oral conditions than if solely sponsored by the profession. We cannot be accused of any but the highest motives, when associated in such an enterprise with prominent citizens of other callings and professions.

In view of the fact that some of the past meetings of the C.D.A. have not been the success that should attend national conventions, and because some of our readers who are greatly interested in the welfare of the Association have suggested to me that we discontinue holding conventions altogether, and exist merely as an Executive body to consider national problems pertaining to the profession when such should arise, I am going to inflict upon you a short history of the C.D.A. and present the constructive ideas which I believe will help make this Association of greater usefulness and interest to the profession in Canada. I fear that if we discontinue holding conventions and if our Executive Council should have little or no duties to call its members together for a considerable time, it might cease to function altogether, and the profession, and even some of the members of the Council, forget that there was such an organization in existence. Then if some crisis in the affairs of dentistry in Canada arose, we might have no active national body to consider the question and protect our interests. Because you have a very successful local or provincial society does not mean that we may neglect the national body. We must be bigger and broader than that. Dr. E. H. Oliver, a speaker of the first National Conference of Canadian Students held in Toronto last year said, "The outstanding peril of this land is the tendency of its citizens to think in terms of their Townships. We have thousands of children growing up in Saskatchewan who have never seen an apple-tree. They think that the Dominion of Canada is a great wide wheat field surrounded by barbed wire, and that the most outstanding creation of our Canadian architectural genius is that Parthenon of the prairies, the grain elevator at the country railway station. There are Nova Scotians who fancy that neither prophet nor university president can arise outside of Pictou. Nor are those benighted people sinners above all men that dwell in Toronto. Just because so much of our national life centres in this city which can never quite cease to be home for some of us, in no place in the Dominion of Canada is the danger of the Township mind at once so great and so manifest as in the City of

Toronto. We have to rescue ourselves from parochialism in our point of view."

This is the twelfth biennial meeting of our Association. Two years ago, we met in Toronto, holding our meeting conjointly with the Ontario Dental Society. In 1920 we met in Ottawa. The late Dr. Frank Woodbury, Dean of the Faculty of Dentistry in Dalhousie University, presided at that meeting. In 1918 our Association met in Chicago, the guests of what was then the National Dental Association of the United States. Montreal was the place of meeting in 1916, and in 1914 the Winnipeg dentists were the hosts of our Association. In 1912 we had a joint meeting with the Provincial Society of Ontario at Burlington, near Hamilton. Toronto was the place of meeting in 1910. This was a union meeting with the Ontario Dental Society. The meeting of 1908 was held in Ottawa, in August of that year, and as the president, Dr. Stanley W. McInnes, of Brandon, Manitoba, had died the preceding November, Dr. Jas. M. Magee, of St. John, N.B., the vice-president, had charge of the meeting. In 1906 we met in Montreal. The ambition of the Executive at that time was to establish a British Empire Dental Association, and an invitation was sent to the British Dental Association, to send representatives to consider the project at the 1908 meeting, but none were sent. 1904 saw the second biennial meeting held in Toronto, with the late Dr. J. B. Willmott, Dean of the Royal College of Dental Surgeons, presiding. The Association was organized in Montreal in 1902 with Dr. F. A. Stevenson acting as president pro. tem., and Dr. W. D. Cowan, of Regina, Secretary. The following men were present at the first Executive meeting held in September of that year: Drs. J. B. Willmott, Frank Woodbury, Stevenson, Webster, Dubeau, McInnes, Godsoe and Cowan.

Under present conditions our meetings cannot be the success they should be. Our greatest handicap is lack of funds to properly finance a meeting worthy of the profession in Canada. Without ample capital, the Association cannot function properly. It must have funds sufficiently large to enable it to bring the greatest men in the world to appear before it, and present to Canadian dentists the best and most modern ideas and methods: but not the fads and passing fancies; only what has been proven and found worthy.

Another handicap under which our Association works is the vastness of our country and the limited number of dentists who may attend meetings not held in centrally located cities. But at the rate with which dentists are increasing, a rate out of all proportion to the increase in our population, there should be a better attendance at all the meetings, no matter where they are held. The long distances separating officers of the society prevent free interchange of ideas, and co-operative work, so necessary to the successful planning of a convention. It means, too, that the local Executive has practically all the arrangements to make and conduct the meeting as a local institution. This often places the work of preparing for and conducting the meeting on the shoulders of very few men, but the whole-heartedness and enthusiasm with which the present local Executive and others in the past have done their work, shows this difficulty is only a minor one. It means, too, that the large cities where annual conventions are held, and whose Executives have much experience, must not expect the smaller centres to be so efficient in organizing and conducting such meetings and they must not unduly critize their efforts.

Another disadvantage under which we labor is the fact that we have no permanent membership. As each one of you registered here today, and paid your fee, you became a member for this meeting, and until the next one is held. We should have a permanent membership with annual dues, and our members given value for the fees paid.

Having presented some of the difficulties under which our society functions, I shall now give you my views, with the hope that if my proposals are not worthy of consideration, they may at least suggest ideas which will produce the result we all desire; a more useful, better and healthier Association.

A suggestion which I received from a member, which would overcome the vastness of our country somewhat, was that the Dominion be divided into three districts, Manitoba and the Western Provinces to constitute the first, Ontario and Quebec the second, and the Maritime provinces the third. Each district would hold their own annual meeting, and appoint representatives to form a federal council; this council to meet yearly to discuss affairs concerning the whole. This plan is good, but I think there is still a better way to make the Canadian Dental Association of real value. Let me name some things we should have to be a real living organization.

*First*: We should have annual meetings if we are to have a healthy active Association. Even the most enthusiastic members lose the continuity of events between biennial meetings, and forget the proceedings of the former one. These yearly assemblies might be held conjointly with the provincial societies, having a definite rotation for their occurrence, something as follows: The first meeting under this scheme might be a union meeting, with the provincial society of Ontario. The second one would be held in the East, all the societies of the Maritime provinces uniting together with the C.D.A. The third one would be held in the Province of Quebec conjointly with the provincial societies there. The fourth one in this series would be held in some Western city with all the Western provincial societies uniting with the C.D.A. This arrangement of meetings would give the more centrally located cities the largest number of meetings. This would be the most desirable, at the same time it would give the Western and Eastern sections a generous share of the meetings.

*Secondly*: We should have an official magazine published by the Association: The Journal of the Canadian Dental Association, with a well paid editor, who might also be the Secretary of the Association, giving his whole time to its affairs and the production of a dental magazine equal to the best; one which will be looked for eagerly each month, and read with earnestness, pleasure and profit.

*Thirdly*: We could have a Dominion Dental Protective Association, similar to the one recently organized to protect the dentists of Ontario from unjust and malicious charges of malpractice, with consequent court proceedings. The central council of this Association will consider the case as presented by the dentist who is threatened with a suit for damages, and if it considers he is unjustly charged, will undertake the task of defending the case and paying all the legal charges connected with the defence. The committee in charge of the Protective Association might not only consider the legal protection of its members, but lend its aid in harmonizing Dental legislation in all the Provinces. It could take over the work now given to the Committee on Dental Legislation.

As I said before, the first and most essential need of the Association is capital to enable it to carry on. How are we going to raise it? After serious consideration, I have to admit that for the present and until we are running smoothly, we shall have to ask the provincial societies for their generous help. If they would give us, say a dollar, or even fifty cents, per member per year, until we are able to carry on independently, then the national body could undertake to give the dentists of Canada splendid yearly meetings, a good magazine, and protection from unjust charges by unscrupulous patients.

When we have reached this stage we shall not have to go begging for funds. Every wideawake ethical dentist in Canada will eagerly become a member, and our financial affairs could be conducted as they are at present by the American Dental Association. Dr. King, its Secretary, kindly gave me the following information with regard to their finances. "The American Dental Association receives its funds from the dues."

Each State Society is a component of the American Dental Association and in turn each district or city society is a component of the State organization. Therefore, hereafter a man may pay his annual dues, and most of them pay them through a component society of a state association, for all three societies included in the annual membership fee. To better illustrate: When a man pays his annual dues in Chicago, which at the present time totals $12.00, $4.00 of this amount goes to the American Dental Association, $3.00 to the State Society, and the balance remains in the local society treasury. These dues, after being collected by a local or component society of the state, are forwarded to the Secretary of the state organization, who in turn retains the state society dues and forwards the American Dental Association dues to this Association.

Before closing this address I wish to thank the different Committees whose work and energy have made this meeting possible. I especially wish to thank the Transportation Committee, and the different local Committees, under the able chairmanship of Dr. Bruce, for the splendid preparation made for our instruction and entertainment. I wish also to express my gratitude to the essayists and clinicians for furnishing us with our programme.

I hope this meeting is the beginning of Annual meetings of our Association which will be held in the Maritime and in the Western provinces as well as in those centrally located. Gatherings where we may meet our old friends yearly, and renew the friendship for those we have learned to love. Meetings which will be so instructive and entertaining, that they will be regretfully considered, by those of us who may not be able to attend, as lost opportunities to improve ourselves professionally and intellectually.

# How the Oral Surgeon May Aid the Prosthodontist

Dr. A. L. Martin, Seattle, Wash.

Read before the Canadian Dental Association, Vancouver, 1924.

Examining the oral cavity we find about as many deviations from our ideal of perfection as there are in the human race from the Venus de Milo.

The Oral Surgeon may very greatly assist the Prosthodontist toward a successful result by bettering the conditions presented. The examination for surgical work should begin with complete dental radiograms and study models. The intra-oral observation should include the texture and tension of the tissues, the muscle attachments, the high hip line, and the osseous anomalies in the oral cavity. Extra-orally, attention should be given to expression, lip relationship, general facial contour and type.

The surgical assistance in preparation of arches to receive artificial dentures has recently become very popular. However, it is not a new dental service, although a great deal has been written about it in the last ten years and some controversy has arisen over its parentage. In reviewing our dental literature we find that surgical preparation has been practised for many years. The Dental Cosmos of 1876, page 118, contains an article by one of Canada's noted practitioners, Dr. W. G. Beers, of Montreal, on "Excision of Alveolar Process after Extraction of Teeth," in which he gives a fair outline of present endeavors with the concluding quotation: "I have been surprised to see difficult cases return in 8 to 10 weeks with mouths quite as ready for an impression as they generally are in four months when the alveolar ridge is left to the natural processes of absorption."

In considering the ideal model arches we must remember that we have the large, medium, and small, and each may be in the square, tapering or ovoid form, with all their variations and different combinations. Nothing constructive can be accomplished by the Oral Surgeon in altering this relationship of arch shape and size. However, with the reforming of the ridge, much of a constructive nature can be done. The opposite buccal walls must be at least parallel to one another or, better still, slightly converge occlusally. This must all be done with the greatest conservation of the healthy osseous tissue which is to stand the stress of mastication. With this form acquired, the greatest convenience is offered the Prosthodontist in his impression-taking and the assurance of a stable denture. While arranging the soft tissue over this osseous foundation you must also give attention to the frenum and muscle attachments and the tension of the tissue, all of which play an important part in their role of retention.

In accomplishing this, we have hypertrophied gum tissue, low muscle attachments, low prenum and large tuberosities composed of excess of gum tissue, and in the osseous tissue we have undercuts, excess of development, tubercles, especially on the lingual of the mandible, all of which may be altered for the convenience of the Prosthodontist.

I would like to define this operation of preparing the jaws to receive artificial dentures, whether it be called alveolectomy, alveolotomy, alveomerolectomy, or interseptal alveolectomy, as the esthetic forming of the ridge with the removal of undercuts, pathology and necessary arrangement of the soft tissue.

The operation consists of four steps:—

1. Removal of teeth.
2. Removal of pathology.
3. Shaping of the osseous foundation.
4. Necessary arrangement of soft tissue.

I am not concerned whether you elevate the soft tissue and remove the buccal plate before removing the teeth, or whether you remove the teeth and then resect the necessary alveolar plate. But I find teeth and roots with firm attachments that are not easy to extract, that the ridge is better preserved and extraction is made more simple by elevating the soft tissue and removing the buccal or labial plate one-third to one-half the length of the root. This also prevents undue fracturing of the alveolar plate.

The elevating of the gingival tissue should be done with great care, being sure to raise the periosteum with the tissue. Here is where you will find a great difference the way the tissue reacts. The heavy, thick, vascular type elevates with but very little difficulty or trauma, while the thin, pale tissue adheres firmly to the process and great care in instrumentation is required so as not to traumatize nor tear it. We elevate this soft tissue with rounded, blunt, periosteal elevators. The type of gum tissue plays an important part in your prognosis for time when dentures may be worn.

To completely eradicate pathology, dentalectomy, (the complete removal of a tooth) is imperative, but it is not imperative to completely remove the entire alveolar process as we have been accused of doing. I am sorry to say some over-zealous operators have probably permanently injured arches operated upon, rather than being of any assistance.

We should never criticize the preparation of a mouth unless we are familiar with the pathological conditions before the operation. We may have apical destruction from the pea-sized granuloma to the cyst which has no limitation as to the amount of its destruction. I have operated cases in which two-thirds of the mandible or superior maxilla have been absorbed. You are all familiar with the deep pockets and alveolar absorption due to periclasia and have seen mouths in which the ravages of this disease have caused complete destruction of the alveolar process. When the Oral Surgeon meets these conditions over which he has no control, his finished preparation is liable to be anything but satisfactory; however, not subject to criticism.

In the anterior section of the arches, resection is often indicated, because of esthetic reasons, it being otherwise impossible to get proper facial contour and lip relationship. The ridge may be formed by the resection of the labial buccal plate to the extent of the undercuts, with a rounding of the lingual ridge so as to prevent a paralleling or converging of the buccal and lingual plates. This may also be accomplished by interseptal resection and collapsing the buccal towards the lingual. Caution should be used against over-converging these plates and thereby lessening the area of the stress-bearing surface. Sharp chisels and rongeurs are my choice of instruments in shaping the bony frame-work.

With the pathology removed and a smooth, round, bony foundation, we adapt our soft tissue; never allowing an excess, preferably approximating

the freshened edges to within a few millimeters. You should not elevate the tissue to any greater extent than to be able to take care of the undercuts and pathology. When there is an excess of tissue over the tuberosities, the removal of a "V" section approximates the tissue nicely. Low muscle attachments and frenum may be set back so as not to interfere with the seal or border of the denture. I excise these attachments with a double parallel incision to the attachment, removing the attachment and periosteum in the section; then elevate on both sides and draw together with a stitch. I prefer this method to the cutting back and stitching of the attachment. Cases operated on in this manner heal readily and with very little post-operative complaint.

I believe in stitching, especially on the upper, as it controls the hemorrhage and seals the socket with a sterile clot which is most desirable. A few stitches on the lower may assist, but the tongue and cheek tend to keep these flaps in their proper relation. Of course too much tension must never be put on stitches or tissue.

I find the dermal ligature for stitching ideal, as it is easy to manipulate, and does not absorb the secretion of the mouth. Hot saline mouth wash every two hours, with cold packs if there is swelling, are about all the home instructions, with the patient returning in 48 hours to the office.

If you have had to elevate your soft tissue one-third to one-half of the root length from the gingival, you had better forewarn the patient, especially the anemics and those of low blood pressure, as to discolorotion in the infra-orbital and mental region. Patients returning with an œdema accompanied by discoloration will accuse you of everything from striking them to blood poisoning.

Stitches are removed in 5 to 6 days, and mouths are ready in 10 to 30 days for restoration.

In conclusion, I would like to emphasize that we are advocating this surgical interference for the patient who has these abnormalities so that he will not be incapacitated for months or years without his dental service; thus retaining the normal mandibular relation and its movements, and the muscle tone of the facial muscles; also shortening his period of embarrassment and inactivity to society.

In many cases surgical interference is not necessary, while in others just the smoothing up of the gingival border of the alveolus will suffice.

Conservation of healthy tissue should be the rule at all times except where resection is indicated for esthetic reasons. Remember, over-surgerizing cannot be corrected, but it is a simple matter to remove an undercut or straighten a ridge by laying back a flap and removing more alveolar process, if the condition of the ridges is not satisfactory after the operation.

In shaping the ridge, the esthetics, undercuts and pathology are the determining factors in your *modus operandi*, each case presenting its individual problems for the operator to solve.

With these points in mind, may we not suggest that the Prosthodontist in his many difficulties may find some assistance in his association with the Oral Surgeon?

# The Negative Pressure Method of Impression Taking

Dr. C. J. Stansbery, Seattle, Wash.

Read before the Canadian Dental Association, Vancouver, 1924.

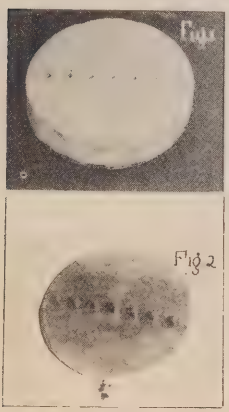
This being a paper on impressions, it is not within its scope to consider the problems of articulation, occlusion or other problems in their effect upon the finished denture. By my method the impression is reproduced in detail in the finished denture, you being called upon to make no changes such as marginal corrections, nor tissue relief. The requirements of a denture are that stability, retention and comfort be attained and at the same time transgress as little as possible on nature's plan for the maintenance of health to the underlying tissues. To acquire stability, we must get an even, positive bearing on the ridges, both during mastication and at rest, the ridges being the foundation tissue directly sustaining the forces of mastication. To acquire retention may be briefly stated as taking the impression in such a way that the entire periphery slightly encroaches on displaceable tissue which has a constant tendency to regain its original position from which displaced. A negative factor to both stability and retention is pressure along the median line of the hard palate which may act as a fulcrum when the tissue on the alveolar ridge is being compressed during mastication. Another negative factor is the elasticity of the pad of tissue overlying the anterior palatine artery and its main branches if a technique has been employed that has exerted a pressure over this area. To acquire comfort, one must not lower the health of the underlying tissues by interfering with normal blood-supply, producing pressure over nerve-distribution, nor allowing under tissue impingement especially on labial and buccal margins.

These premises form the rule and guide in the impression procedure. Remember them:—stability, ridge bearing; retention, peripheral encroachment; comfort and maintenance of health by avoiding circulatory disturbances and undue pressure.

No edentulous mouth can be considered, in the strict sense of the word, normal, for no doubt nature's plan is that our teeth should last us throughout our natural life. However, we have all seen edentulous mouths that for some time have worn no artificial denture, and they were tough and in a hard, robust and healthy condition; indeed their "gumming it" had attained quite a degree of efficiency. It is this condition that we should try to maintain under our dentures. A ridge with a roll of soft, spongy tissue along its crest, which would permit of a much better foundation if this tissue were removed, should be operated upon. In my practice I insist on this removal, and if the patient objects it is a good time to stop before you begin. Here is the patient's first opportunity to show his co-operation, and if he fails you here, why expect it in his getting accustomed to his "new teeth"? The ridge must bear the burden of mastication, so we must insist that it be in the best condition possible, though this may, at times, be far short of what we might wish.

Next the tray. Its form increases its rigidity over what the same amount of tray material in the flat form would exhibit. This may be illustrated with a flat piece of tin and a pail cover. The first would easily bend while the second might sustain the weight of a man even though supported by its edges only. This form of the tray also lessens its range of elasticity; however, makes it more perfectly elastic, for elasticity is defined as the property of material which causes it to resume its original shape after distortion. As an example: a marble or billiard ball has more perfect elasticity than has a rubber band, because on bouncing from a rigid surface they regain their original form more perfectly than will the rubber band when stretched.

Modeling compound at ordinary room temperature also possesses considerable elasticity. (Fig. 3). All of these properties enumerated are brought into action during the technique of impression taking. While your mind is running along these physical channels, I wish to call your attention to this drawing. (Fig. 4). Let R.H.L. represent a rigid surface, and across RL an elastic bar is placed. Represent the bar by SE, which stands for "something elastic." Now if a force "F" of 10 pounds is exerted upward against the middle of SE sufficient to bend this bar to the position represented by the dotted line, then you may see that both R and L are exerting 5 pounds each in the direction opposite to F. Now "H" stands for "hook" and if we place the bar over the hook, we may then remove the force "F" of 10 pounds and the bar will be maintained in its bent position by "H", but H in turn must do the work that F was doing;



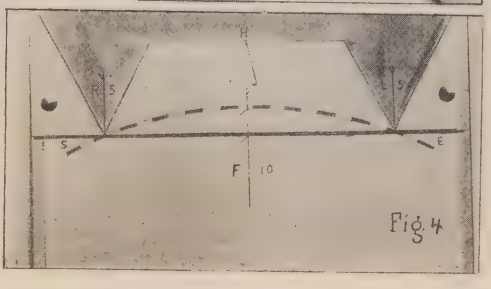



Fig. 1. A slab of artificial stone in which a series of holes of equal diameter and depth and equi-distantly placed have been drilled; over this a large piece of warm modeling compound is placed and subjected to pressure against a flat surface.

Fig. 2. Represents the result of this experiment. The varying amounts of modeling compound that have been forced into the holes are but a measure of the variable pressure immediately surrounding that particular hole. It will be seen that the pressure is greatest at the location farthest from its escapement, and gradually lessens until the point of escapement is reached.

Fig. 3. Represents a coiled spring made of modeling compound. This is made by forcing warm modeling compound from a wax gun and while still warm wrapping around a small test tube, into the form shown on the right. The figure on the left shows the coil compressed; on releasing pressure it will resume the form shown on the right, thereby proving that modeling compound at ordinary room temperature possesses considerable elasticity.

Fig. 4. The text is thoroughly explanatory of this figure. After the reading of the paper, return to this figure and supply the analogy with the final step in the impression technic.

that is, pull up 10 pounds. What I want you to remember is that the bar is pulling down 10 pounds on H, while the ends are pushing up 5 pounds each.

In any tissue there is a certain proportion of cellular tissue to vascular volume—for want of a better term call it normal balance. A so-called compression of tissue is but a diminution of the vascular content: the contents of the arteries and veins being forced out of the tissue. The normal balance between the vascular capacity and the tissue to be nourished is thereby disturbed. It is axiomatic that to preserve the health of any tissue, its blood-supply must be normal and uninterrupted, and to this self-evident fact the tissues underlying a denture are no exception.

Give a few minutes of thoughtful resume to your anatomy. The principal blood-supply of the vault of the palate is from the anterior palatine arteries entering through the posterior palatine canals and running forward about midway between the alveolar ridges and the median line of the palate, to pass upward through the lateral canals of Stenson and there anastomose with the naso-palatine. During this course they give off lateral branches both toward the median line and toward the alveolar ridge. The gums and mucous membrane of the lip and cheeks adjacent receive their blood-supply from the terminal branches of the infra-orbital and alveolar branches of the internal maxillary. Now let us observe the blood-supply of the palate and peripheral tissues with a natural denture in place. You will find that the natural teeth, especially the square shaped teeth with but little space between their necks and thin septa between the alveoli, practically form a barrier between these two blood-supplies.

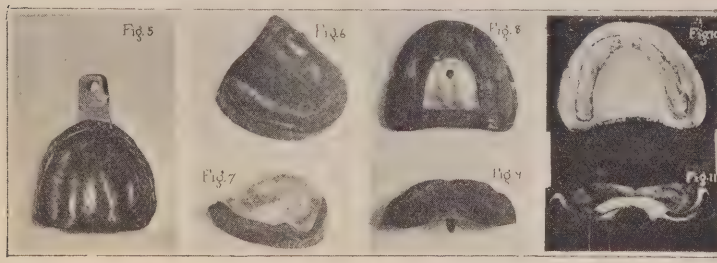
Now follows the extraction. The result is that in the alveoli blood clots form which are afterwards replaced with bone from the alveolar walls; and the tissue proliferations from the margins of these clots unite the buccal and palatine tissues and with them extend the terminations of the blood-supply of these margins. Any pressure on the palatine canals will have its effect more markedly on the termination of the blood-supply than along the arteries of greater calibre.

Now of prime importance comes the consideration of the materials with which we are to work. First bear in mind the physical properties of all the materials used, and try to make use of these properties in such a way as to aid you in the result you desire to attain. A physical property which greatly concerns us in impression taking is viscosity—internal resistance to flow or internal friction are various names given this property. It is present in all liquids and varies greatly in different liquids. Ether, water, sulphuric acid, linseed oil, and molasses, represent a series with increasing viscosity. The inverse, or opposite, of viscosity is fluidity. In the materials with which we are concerned, plaster of Paris and modeling compound each have their viscosity, varying with the proportions of the mix and stage of setting for the first, and the degree of heat for the second. Plaster of Paris in its thin, creamy stage has a high degree of fluidity and low viscosity, and in this condition behaves in accordance with the laws of hydraulics. One of these laws is that pressure on a confined liquid is transmitted equally in all directions. If modeling compound in any degree of heat sufficient to render it plastic is subjected to pressure between two rigid surfaces with escapement only around the margins, the area of greatest pressure against these surfaces will be that portion farthest from its escapement, and this pressure will vary according to the viscosity or degree of heat. Bearing this in mind, you will see that it is impossible to

take an impression using modeling compound only and attain a uniform degree of pressure on the entire surface of the compound. This also applies to waxes and other materials that have considerable viscosity or internal resistance to flow. (Fig. 1 and 2).

As a physical summary, bear in mind for practical application the property of viscosity of modeling compound, the fluidity of thin plaster and the elasticity of both modeling compound and the contoured tray. Also review the experiment of the elastic bar to the deduction of transferring the force "F" to the hook "H". For a further refreshment of your memory, and before taking up the technique, please review: stability, ridge bearing; retention, peripheral encroachment; comfort, preservation of health. Then again visualize blood-supply, and let your reason guide you whether or not to consider it vital and fundamental and worthy of respect. The points brought out in the paper so far I wish to call the "fundamentals," and as such I shall frequently refer to them.

We will now proceed to the technique. The technique will be set forth a step at a time, and each step confirmed by directing your attention to the fundamental upon which this particular step is based. First, a modeling compound cast (Fig. 6) is made by warming a large portion of modeling compound to a putty consistency and forcing it into a wet, chilled, modeling compound impression (Fig. 5) taken in a solid tray large enough to get all the tissues involved. This is a preliminary step and conforms to nothing except convenience. On this modeling compound cast I form my tray (Fig. 7) and for this purpose I use Dr. Giffin's flexible trays made in sizes Nos. 1 and 3. The tray is closely adapted to the cast, and the buccal and labial margins trimmed low enough to avoid any possible impingement on




Figs. 5, 6, 7 in their order of constructive sequence need no further explanation except to note the closeness of the tray's adaptation. Over casts which show a high vault, it is desirable that the tray be allowed to remain nearly horizontal from ridge to ridge excepting at the post-dam.

Fig. 8. Due to the difficulty of showing photographically the small difference in the shade of red between trimmed and untrimmed modeling compound, this difference will have to be looked for in the picture as a surface characteristic. Notice the width of post-dam, also the flattened buccal and labial border and the tapering of the modeling compound between the ridge and palate portion.

Fig. 9. Represents a cross section of No. 8 showing the wax cone in place and the untrimmed modeling compound forming the seat for the ridge.

Fig. 10. The points of interest in Fig. 10 may be followed from the text.

Fig. 11. Tells the whole story. It is a cross section of Fig. 10 at the point of perforation. From left to right note the following points: First, the film of plaster on the buccal side of the flange that has been left after the massage through the cheeks has forced the plaster to the position directly over the buccal flange for the sake of retention; second, note the plaster in its varying thicknesses lying against the buccal surface of the ridge; then comes the seating of the ridge, shown by but a thin film of plaster remaining at this point. Notice the finger print on the under surface of the tray made there while sealing the perforation, and note particularly how the finger tip has been drawn up through the perforation by the suction or negative pressure when the tray was allowed to resume its unsprung position. The same suction that was exerted on the finger tip by the plaster while in fluid condition was exerted on every other like area, surrounding this confined plaster.

the buccal and labial fold or muscle attachment, and the posterior margin left long enough to include post-dam. The only fundamental difference here is that the tray, by reason of its shape, now has an elasticity it did not have while in the flat form.

Next, modeling compound is placed in the tray and an impression taken of the modeling compound cast so that the average thickness of the modeling compound in the tray is about 2 to 3 mm. Cut out the modeling compound about the size and position of a large air-chamber, exposing the tray beneath. Warm under a stream of hot water and place in the mouth with a firm pressure over the cuspid and molar regions to correct the approximate impression of the ridges. The fundamental reason for the cutting out of the palate portion is to allow the modeling compound to escape in both directions from the crest of the ridge and therefore have the greatest pressure on the ridge itself. The tray and modeling compound are now chilled and so maintained throughout the future steps, except in that particular portion receiving attention. The entire peripheral margin, a portion at a time, is then warmed, and muscle trimming by grasping the cheeks and lips between thumb and fingers and pulling down. This should be done to such an extent that the margin is no longer in contact with the mucous fold when the tissues are at rest—a muscle trimming so excessive that it is of no value as a peripheral seal. The modeling compound should present to the cheeks and lips a smooth, flat surface approximately one-half inch wide. The use of this flat surface will be obvious in the final step.

The posterior margin is now trimmed to a right angle to the palatal surface, being sure that it is amply long. This angle is marked by a slightly moistened indelible pencil and after drying the palate with a cotton roll, the impression is put in place and the patient instructed to swallow. On removing the impression a fine, definite line on the palate shows the position of the margin. Close the patient's nostrils with the thumb and finger and instruct the patient to open the mouth wide and compress air into the nasal cavity. This will cause the soft palate to be deflected sharply downwards and by observation of the indelible line guide you as to whether you have placed the posterior margin of the impression correctly. If not, correction can easily be made. The proper position is just to where the movement begins. As a post-dam, I use soft, black wax, carding wax, a strip about one-eighth inch wide, and 20-gauge thick. When this is laid on along the determined margin, the impression is once more introduced and firmly seated. This cannot interfere with blood to the palate, because it lies distal to the foramen, and the soft palate is copiously supplied with blood from the ascending pharyngeal and ascending palatine. Another mitigating condition is that the line of post-dam is in the same general direction as the lateral branches of the anterior palatine.

The impression is now ready to prepare for the final step. First, expose the tray by removing the modeling compound from the palate portion, leaving only a strip under the post-dam about one-quarter of an inch wide. Laterally remove the modeling compound about to the line where the concavity of the palate meets the convexity of the ridge. Extend this cutting away of the modeling compound to include the posterior palatine foramen distally and the anterior palatine in front, also bevel slightly all the edges. Perforate the tray in about the centre of its exposed area, mak-

ing a hole one-eighth of an inch in diameter, and seal this perforation on the lingual side of the tray with a cone of baseplate wax about one-quarter inch long.

Prepare the buccal and labial flange of the impression as follows: Along the crest of the muscle trimmed modeling compound, take off another millimeter for good measure, and a little more than this where either labial or buccal frenum are attached. From the inner surface of the modeling compound flange, that surface which is in contact with the buccal and labial tissue of the ridge, cut away the modeling compound to a depth of 2 or 3 millimeters, gradually tapering out near the ridge. The impression is now prepared for the final step and should present only the bearing surface of the ridge and the post-dam in contact with the tissue. (Figs. 8 and 9).

In order that you may somewhat anticipate procedure, in this final step comes the application of elasticity of tray and modeling compound, fluidity and viscosity of plaster of Paris, and the application of the experiment of transferring F to H. The resultant of all these is bearing on the ridges, relief of median line and area over blood distribution, and peripheral displacement of tissues.

With tray and modeling compound prepared as described, next mix plaster of Paris for the final impression. A method of mixing plaster, which fulfils requirements, is as follows: One-third of an ounce of saturated solution of potassium sulphate and two-thirds of an ounce of lukewarm water; into this solution sift snow-white plaster until the plaster nearly shows above the surface of the water. When all surface plaster has settled beneath the surface of the water, pour off the surplus water. Stir briskly until the first signs of thickening begin to appear. Pour this thin creamy plaster into the tray, shaking well from side to side; experience will teach you about the right amount.

Everything thus far done is but preparatory to placing the tray and plaster in the mouth, and if not done correctly the previous care counts for nothing, so give close attention to every detail of this last procedure.

Insert the tray into the mouth, at the same time distending the cheeks and lips so that the entire periphery will be in full view, then give a slightly oscillating upward movement until plaster appears over the entire periphery. At this stage drop the lip and cheeks, and with further pressure to the ridge of the tray, at about bicuspid region, firmly and accurately seat the tray on the alveolar ridges. Now, uncovering the perforation by displacing the wax cone, slide the fingers from the ridge to the median line of the tray, but do not cover the perforation. Then give a further heavy pressure. This will cause plaster to exude through the perforation. If the pressure is relieved, the plaster will be drawn back through the perforation; do not let this happen, but while still under pressure slide a finger tip to seal the perforation and then release the pressure but maintain the seal. All this must be done while the prevailing characteristic of the plaster is fluidity. Now give attention to the impression buccally and labially to the alveolar ridge. Here the degree of fluidity that is desirable in the palate is not indicated, but a more viscous consistency meets the requirements. The degree of setting has accomplished this. The trimmed buccal and labial flanges act as a deflector over the top of which the surplus plaster must flow and then down the outer sides under the cheeks and lip. The resistance to this exit causes a back pressure which brings an even, gentle displacement of the tissue at the periphery, a greater displacement verti-

cally of tissue against tissue than horizontally of tissue against bone. This peripheral margin is further formed and muscle trimmed by massaging the cheeks and lip when the plaster has reached a thickened consistency. The massage should be done with thumb and finger placed on the cheeks and lip directly external to the flat exterior of the flange described in the modeling compound portion of the technique. This massage will cause a slight displacement, more than that which was caused by the mere flowing over the flange when the impression was seated on the ridges. Use the left hand for this massage, as the right is still engaged in maintaining the seal in the palate. When the plaster has thoroughly set, remove and examine.

The palatal aspect of the well-taken impression (Fig. 10) should show modeling compound over the entire untrimmed ridge as evidence that the plaster was sufficiently fluid when the tray was seated; it should also show the entire wax post-dam. All other surfaces should present a plaster surface only. There should be no bubble on the palate that would indicate a leakage of the seal. At no place should the modeling compound of the flange be exposed.

Let us now apply the fundamentals to this finished impression, using the impression as evidence, as to whether or not they have been fulfilled.

First.—An even, firm pressure on the ridge for stability; (Fig. 11) the modeling compound showing through the plaster confirms this.

Second.—The exudate of plaster from the perforation when the median pressure was applied, and its being drawn back on release of pressure, should prove to you the elasticity of the tray and modeling compound.

Third.—The heavy pressure with perforation uncovered is the force "F" in the experiment; the plaster is the hook "H", and the sealing of the perforation was the hooking of the force "F" onto the plaster "H" which, in turn, had to be supported by the tissue beneath. The fact that the palate portion of the impression, that taken in plaster, adheres and does not break away from its modeling compound surrounding, shows that the tray and modeling compound had returned to their original unsprung condition before the plaster had set. Fundamentally, all this was done to relieve the hard median line and area over the blood-supply.

Fourth and Last.—The peripheral seal for slight displacement of the margin, was made by massaging the plaster that had run over the edge of the modeling compound flange back against this peripheral line. This is done to answer to the fundamental of retention. May I call your attention to the fact that, while the impression was taken at one time, three distinct areas, each with its own individual condition, existed. First, the area within the post-dam and modeling compound under a suction or negative pressure; second, the area of the ridges under heavy pressure, the third, the area without the ridge, taken under a variable pressure increasing from ridge crest to peripheral seal. As a distinctive method, based upon logic and confirmed by clinical use, I am sure that your adoption of this procedure will do away with many of your impression problems. I am calling this method "The Negative Pressure Method of Impression Taking", and wish that you would refer to it as such.

If this paper lessens any of your troubles, or causes you to think as you take impressions then I am amply repaid and thank you for the privilege of appearing before you.

# Dental Health Service

WALLACE SECCOMBE, D.D.S., F.A.C.D., TORONTO.

**Read before the Canadian Dental Association, Vancouver, 1924.**

In the absence of the author, Dr. R. Gordon McLean, of Toronto, presented Dr. Seccombe's paper.

Modern Dentistry has made such a worth while contribution to humanity that she has won for herself an honored place among the learned professions. This contribution, in the main, has included the relief of pain and suffering; the preservation of the masticatory function; the restoration of lost tooth tissue; the establishment of aesthetic harmony and maintenance of hygienic conditions within the oral cavity.

Great and important as undoubtedly these activities are, the modern practitioner *knows* that to confine his efforts to this programme would result in the focusing of his attention upon a localized area of the human body and in failure to appreciate the problem as a whole and the vital relations of one part of the system to another.

Throughout the dental world there is now being given scientific consideration to the intimate relations between local dental disease and general systemic lesions. The members of both the medical and dental professions fully appreciate the dangers of focal infection and know that such foci occur about the roots of infected teeth. But these two professions also know that the teeth of humanity must be saved. And they can only be saved when in a condition of health and free from disease. This is Dentistry's great problem, and its complete solution will rank as one of the greatest contributions ever made to the health, happiness and longevity of the human race.

In the solution of this problem the dental surgeon will continue to play an important part. The laws of health are not always broken in ignorance. Heredity, environment, acquired habits, lead us to transgress many of the laws of health with which we are quite familiar. Mankind pays to the utmost, in disease, for deflection from the health way. But disease will doubtless remain until the "Golden Age" and with it the need for the dental practitioner, who will continue his unrelenting and humanitarian warfare against dental disease by assisting nature to change conditions of disease to those of health, and in re establishing function through the replacement of lost tooth tissue.

And the dental physician also has an important part to play in the solution of the problem. The modern dentist is not only a dental surgeon but a dental physician, practicing dental physiology, and by precept and practice inculcating scientific principles of preventive dentistry into the life habits of his patients and the people of his community.

Let us give to preventive service the honored place it deserves in practice. Its importance demands our best thought. The recognition of this obligation will enable us to feel that in a dental sense we are placing "first things first."

A biological conception naturally leads one to a consideration of healthy function within the oral cavity, with a view to its maintenance and the

prevention of dental disease. Fundamentally and always disease reflects within the system a disturbance of physiological balance from the standpoint either of physics or of chemistry, or both.

The dental physician in studying the cause of dental disease is in effect endeavoring to learn why physical or chemical balance, or both, have been disturbed. This study might be taken up under the following divisions:

RECAPITULATION OF CAUSES OF DISTURBANCE OF PHYSIOLOGICAL BALANCE.

Firstly—*Physics.*
Div. 1—Lack of Balanced Occlusion.
Class a—Food habits.
b—Uneven wear.
(1) Loss of teeth.
(2) Artificial replacement.
c—Trauma.
Div. 2—Capillary Spaces.
Div. 3.—Mucinous Plaques.
Also possibly other factors in plaque formation:
—Bacteria.
—Chemical.

Secondly—*Chemistry.*
—Basicity and Alkalinity.
—Neutralization of acids of fermentation.

Division 1 relates more particularly to pericemental affections, while the other divisions relate themselves more definitely to caries.

A more detailed consideration of these divisions follows.

*Firstly—Disturbance of Dental Balance from the Standpoint of Physics.*

*Division* 1—Lack of Balanced Functional (physiological) Occlusion—unbalanced occlusion—occlusal overstress or understress.

*Causes—*

Class (a)—*Food Habits.* When food habits are changed so rapidly that an organism is unable to make the necessary evolutionary changes, there is a consequent failure of the organism to adjust itself to its new environment. The condition may be one either of over-function or of under-function; the machine is not suited to the work it is called upon to do. Illustrations: (Understress)—Domestication of an animal such as a house hog and its effects upon the teeth. (Overstress)—Animals moved from their natural haunts to a new environment, resulting in such changes in the quality or quantity of available food as to entirely change the life habits of the animal. Present-day revolutionary changes in the food supply of man.

Class (b)—*Uneven Wear of the Teeth*—resulting in both under-function and over-function, and caused by (1) Loss of teeth and consequent drifting of remaining teeth; or (2) Artificial replacement of tooth tissue by metals and other materials of varying density. It is important that all restorations should conform to functional occlusion. In event of difficulty in a restoration in a case of so-called "hard bite," physiological considerations would never suggest the addition of platinum to the gold that it may "stand up" under the strain. Restorations may occlude in the "resting bite", but not while the tooth is functioning. These conditions are predisposing causes of perice-

mentitis. When harder golds are essential more frequent use of abrasive stone is required as a corrective.

Class (c) —*Injury Resulting from Trauma.*

Division 2—Capillary Spaces, as occur at faulty contact points, pits, fissures, and other developmental defects; also clasps or leaky fillings, causing salivary stasis and the retention of fermentable food elements.

Division 3—Mucinous Plaques which are osmotic and cause salivary stasis and a retention of fermentable food elements.

*Secondly—Disturbance of Dental Balance from the Standpoint of Chemistry.*

In cases of susceptibility to dental caries, carbohydrate material is retained, ferments, and results in acid by-product in greater quantity than the alkaline elements of the saliva are able to neutralize. In other words, there is a lack of chemical balance as between the by-products of fermentation and the neutralizing power of the saliva.

We must learn to apply the fundamental law of physiological balance to our study of the problems of health and disease. Disturbance of balance may be occasioned by too much infection or a lack of the forces of immunity, too much of this factor, too little of that—excess in any direction. It may be functional or nutritional, local or systemic. Within certain limits nature may be able to maintain physiological balance (health), in spite of wrong habits of living. But when the load becomes too great, and we pass over from the health to the disease side, we must study the whole case with a view to eliminating all of the negative factors involved.

When we make such an approach, we commence our study with no preconceived ideas as to the cause of the susceptibility or immunity. The cause or causes may lie in any one or more of many directions. Disease is never a simple problem, and is particularly complex in the mouth, where we have local and systemic factors so closely associated that vicious circles are frequently formed that add to the apparent difficulties of correct diagnosis.

Questions of diet and nutrition are considered as major factors in dental disease because the mouth is part of the alimentary canal and reflects conditions prevailing in other parts of the digestive tract; the teeth are the organs of mastication and are constantly bathed in one of the digestive juices; the dental caries, the most prevalent of all diseases, is caused by the lodgment of food elements in the oral cavity.

It is important, therefore, that we should make practical application of dietetic knowledge of the practice of our profession, with a view to rendering the best possible service to our patients.

The only way to make a satisfactory and scientific study of the dietary factor in dental disease is to chart the case in a way to determine whether the patient's diet meets the requirements as to quantity of food, correct proportion of protein, fat and carbohydrate, sufficiency of the inorganic elements (particularly of calcium, phosphorus and iron), basicity of end-product, body regulator factor, and need of mastication.

It will be found that the vitamin factor will be well cared for if the diet is made up of natural foods that meet all of the above requirements.

(Following the lantern slides Charts and Food Tables recommended for use by dental practitioners in studying and diagnosing cases of susceptibility in practice were distributed to the members and formed the basis for a more detailed discussion of the subject.)

# Societies

## Dental Practitioners Course at University of Toronto

A Dental Practitioners Course will be given by the Faculty of Dentistry, University of Toronto (formerly the School of Dentistry of the Royal College of Dental Surgeons), September 14th to 19th (inclusive) at the Dental Building, 240 College Street, Toronto, and all ethical Dental Practitioners are most cordially invited to spend one week in the intensive study of modern procedure in various branches of dentistry.

Fee for course, $25.00. Fee to Graduates of the University of Toronto, or the School of Dentistry R.C.D.S., $10.00. Dental Teachers registered without fee.

## Dominion Dental Council Examination Results

Anaesthetics: Adams, Lois; Barnes, V. E.; Browne, C. T.; Campbell, J. M.; Doan, F. W.; Falconer, R. L.; Fisher, E. J.; Gillies, W. J.; Green, D. E.; Groff, E. E.; Hargreaves, E. G.; Hennigar, R. E.; Hughes, A. E.; Hutzulak, P.; Johnstone, L. A.; Kennedy, H. J.; Lewis, T. H.; Lockwood, W. T.; Markinski, J. P.; Metzler, S.; Macdonald, D. L.; McCarthy, T. G.; McDonald, J. A. C.; Nicholson, M. H.; Rowley, S. J. D.; Stanford, R. H.; Steen, M. R.; Turnbull, G. V.; Willigar, W. G.

Pathology (only)—Barrett, G. Y.; Cooper, W. R.; Grose, L. M.; Markinski, J. P.; Thompson, O. R.; Wood, F..

Bacteriology (only)—Cowan, F. H.; Hutzulak, P.; Kennedy, H. J.; McCarthy, T. G.

Pathology and Bacteriology—Barnes, V. E.; Campbell, J. M.; Fisher, E. J.; Gillies, W. J.; Green, D. E.; Groff, E. E.; Hughes, A. E.; Lockwood, W. T.; Metzler, S.; McDonald, J. A. C.; Rowley, S. J. D.

Materia Medica and Therapeutics—Barnes, V. E.; Carroll, J.; Falconer, R. L.; Fisher, E. J.; Gillies, W. J.; Green, D. E.; Groff, E. E.; Howard, G. B.; Hutzulak, P.; Kohli, F. A.; Lockwood, W. T.; Metzler, S.; Montgomery, A. R.; McDonald, J. A. C.; Polack, I. G. G.; Robinovitch, A.; Rowley, S. J. D.; Singer, S.; Wood, F.

Materia Medica (only)—Thompson, O. R.

Jurisprudence and Ethics—Browne, C. T.; Campbell, J. M.; Falconer, R. L.; Fisher, E. J.; Green, D. E.; Groff, E. E.; Hargreaves, E. G.; Hennigar, R. E.; Johnstone, L. A.; Lewis, T. H.; Lockwood, W. T.; Montgomery, A. R.; Macdonald, J. A.; McDonald, J. A. C.; Nicholson, M. H.; O'Connor, T. H.; Rowley, S. J. D.; Stanford, R. H.; Turnbull, G. V.; Willigar, W. G.

Anatomy—Barrett, R. H.; Callbeck, L. M.; Carman, H. A.; Carmichael, L. D.; Davies, O. J.; Dempster, J. C.; Eaton, H. M.; Grant, J. A.; Green-

berg, N. H.; Hare, G. C.; Haselton, L. D.; Irwin, A. W.; Layter, G. C.; Macdonald, J. A.; Robb, H. M.; Robinovitch, A.; Rowley, S. J.; Stewart, A. A.; Thompson, O. R.; Thurston, G. B.; Tilson, J. E.; Toll, C. E.

Physiology and Histology—Barrett, G. Y.; Cooper, F. B.; Cooper, W. R.; Eaton, H. M.; Falconer, R. L.; Glascott, J. G.; Groff, E. E.; Howard, G. B.; Hughes, A. E.; Hutzulak, P.; Lawley, J. H.; Lockwood, W. T.; Robinovitch, A.; Rowley, S. J. D.; Thurston, G. B.

Physiology (only)—Kohli, F. A.; Polack, I. G. G.; Stitt, M. L.

Histology (only)—Carman, H. A.; Carmichael, L. D.; Davies, O. J.; Dempster, J. C.; Grant, J. A.; Greenberg, N. H.; Hare, G. C.; Haselton, L. D.; Irwin, A. W.; Layter, G. C.; Lindsay, J. C.; MacDonald, J. A.; Robb, H. M.; Scott, T. N.; Singer, A.; Stewart, A. A.; Tilson, J. E.; Toll, C. E.

Medicine and Surgery—Barnes, V. E.; Barrett, G. Y.; Browne, C. T.; Campbell, J. M.; Cooper, F. B.; Cooper, W. R.; Croft, F. H.; Doan, F. W.; Falconer, R. L.; Fallaise, H. T.; Fisher, E. J.; Gillies, W. J.; Green, D. E.; Groff, E. E.; Grose, L. M.; Hargreaves, E. G.; Henderson, E. J.; Hennigar, R. E.; Higgins, A. E.; Howard, G. B.; Hughes, A. E.; Johnstone, L. A.; Lesco, S. J.; Lewis, T. H.; Lockwood, W. T.; Mabee, J. C.; Markinski, J. P.; Metzler, S.; MacDonald, D. L.; McDonald, J. A. C.; Nicholson, M. H.; Rowley, S. J. D.; Shepherd, F. H.; Stanford, R. H.; Steen, M. R.; Thompson, O. R.; Turnbull, G. V.; Willigar, W. G.; Wood, F.

Prosthetic Dentistry and Orthodontia—Bagnall, J. S.; Barnes, V. E.; Barrett, G. Y.; Browne, C. T.; Campbell, J. M.; Cooper, W. R., Doan, F. W.; Falconer, R. L.; Fallaise, H. T.; Fisher, E. J.; Gillies, W. J.; Green, D. E.; Greenberg, S.; Groff, E. E.; Grose, L. M.; Hargreaves, E. G.; Hennigar, R. E.; Howard, G. B.; Johnstone, L. A.; Lavers, B. D. W.; Lewis, T. H.; Lockwood, W. T.; Markinski, J. P.; Metzler, S.; MacDonald, D. L.; McDonald, J. A. C.; Nicholson, M. H.; O'Connor, T. H.; Rowley, S. J. D.; Shepherd, F. H.; Stanford, R. H.; Steen, M. R.; Turnbull, G. V.; Willigar, W. G.

Operative and Preventive Dentistry—Barnes, V. E.; Barrett, G. Y.; Browne, C. T.; Campbell, J. M.; Cooper, W. R.; Doan, F. W.; Falconer, R. L.; Fisher, E. J.; Gillies, W. J.; Green, D. E.; Groff, E. E.; Grose, L. M.; Hargreaves, E. G.; Hennigar, R. E.; Higgins, A. E.; Johnstone, J. H.; Lavers, B. D. W.; Lewis, T. H.; Lockwood, W. T.; Markinski, J. P.; Metzler, S.; MacDonald D. L.; McDonald, J. A. C.; Nicholson, M. H.; O'Connor, T. H.; Rowley, S. J. D.; Stanford, R. H.; Steen, M. R.; Thompson, O. R.; Turnbull, G. V.; Willigar, W. G.; Wood, F.

Physics, Chemistry and Metallurgy—Campbell, J. M., metallurgy only; Carroll, J.; Falconer, R. L.; Fisher, E. J., metallurgy only; Glascott, J. G.; Greene, D. E.; Groff, E. E.; Howard, G. B.; Hughes, A. E.; Hutzulak, P.; Kohli, F. A.; Lesco, S. J.; Lockwood, W. T.; Montgomery, A. R.; McDonald, J. A. C.; O'Connor, T. H.; Polack, I. G. G.; Robinovitch, A.; Rowley, S. J. D.; Singer, A.; Stanford, R. H.; Stitt, M. L.; Thurston, G. B.

# Golf Tournament

The Spring tournament of the Toronto and District Golf Association was played on the Oshawa golf course June 17, with fifty-one members taking part. There were many prizes given for all kinds of contests. Dr. A. Elliott and Dr. C. E. Sutton tied for best gross score in the first flight, while Dr. O'Brien headed the list of the second flight with a score of 83, which was five better than the winner of the first flight. The play for the Webster and McLean cups is determined by winners in both Spring and Fall meets.

# Dental Hygiene Council to Look After Teeth of Immigrants

At the annual meeting of the Canadian Dental Hygiene Council it was decided to provide dental service for newly arrived immigrants to Canada. It was announced that the Council had made request for a grant of $10,000 from the Dominion Government to aid in carrying on its work on behalf of the public. This application is now receiving the attention of the Cabinet.

Reports were presented by Dr. W. C. Trotter, chairman of the executive, and Dr. H. Thompson, field secretary.

Hon. S. C. Mewburn, K.C., M.P., Hamilton, was elected president; E. E. Reid, London, Ont, vice-president; and Dr E. A. Grant, Toronto, secretary-treasurer.

# Correspondence

Gull Lake, Sask., May 23.

Dear Doctor.—I have a patient with cleft palate who has been wearing a full upper denture for 20 years. The palate is formed by some spongy soft rubber and goes down well into her throat. Would that soft rubber be the same rubber that we use in cushioning lower plates and could it be vulcanized to repair the break, or will it be necessary to add a new piece of rubber?

I will feel much obliged for any assistance you may extend on this matter.

Dear Sir,—Soft vulcanizing rubber for velae for cleft palates is the same as cushion rubber used for lower dentures. So the old velum can be repaired with cushion rubber.

# Editorial

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**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

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Vol. XXXVII TORONTO, AUGUST, 1925 No. 8

## Pulp Capping and Root Canal Filling with the Same Substance

Dr. Buckley, in a recent paper presented at the dental congress in Australia, and published in the "Dental Science Journal," discussed in his usual sane and common sense way the problems of the dental pulp. He starts out by giving a method of diagnosis which is direct and simple for all ordinary cases. First, take a history; second, observe the condition; third, make certain well known tests. Upon the result of these the pulp lives or dies. "In acute active hyperaemia the pain only occurs when the irritant is applied such as heat, cold or impact from food and subsides almost momentarily without treatment. In passive hyperaemia, the pain is more constant and may start without any known irritant. In inflammation the pain is continuous and of a boring character, frequently stabbing or jumping, and is relieved only by bleeding, cold applications or death of the pulp. A pulp with active hyperaemia may be saved even though exposed, but when passive hyperaemia is in evidence its conservation is questionable, while if inflammation exists its life is hopeless." There is the whole story of pulp management, too simple to be believed. Only observation, thought and experience will make anyone believe in its accuracy.

The next subject he discusses is largely based on the diagnosis already made. It is the introduction of a simple remedy for deep decays, irritated pulps and pulpless teeth. It is a combination of substances to meet all purposes. It seems fairly rational but the writer cannot see any particular virtue in calcium phosphate over oxide of zinc as the main body of the material when it is completely incased in a binder of resin. It is surely an

inert substance, hardly coming in contact with the denture. The formula is calcium phosphate 60, thymol 2, thymol iodide (Aristol) 3, bismuth subnitrate 5, and resin 10 parts. When these powders are mixed together they are brought into solution by the use of ordinary alcohol. The advantage of this compound is that it serves every purpose from capping a pulp to filling a root canal with a stimulating antiseptic which becomes solid and does not contract. While ever the thymol and iodine last it will be antiseptic and while ever the resin a vegetable substance lasts the root canal will remain filled or the pulp closely capped. Experience will show if nature's processes will remove the resin from root ends or capped pulps as it does in the case of petroleum compounds and whether the iodine will have any effect on the color of teeth if allowed to remain in the coronal end of the tooth. Aristol as used by many operators as pulp capping and a constituent of a root filling was thought to discolor the tooth. Dr. Buckley's method is simple, complete and worthy of sincere trial. It is infinitely better than gutta purcha alone as a root filling. If it is intended to mechanically fill a root canal then the chlora purcha and gutta purcha alone method is the poorest of those in common use. If it is intended to act as an antiseptic, then the antiseptic must be incorporated in the gutta purcha, which sooner or later loses its virtue.

## Wrong Teaching

It is a remarkable thing that expressions such as the following are still to be found in dental literature. "Because of the character of the operating field and the nature of the tissues usually operated upon surgical asepsis is seldom practicable or necessary." This appears on page 753 in the current number of the "Dental Cosmos." This is the view of a Bachelor of Science not a dentist but it is readily grasped at by those who only sterilize because of the fear of their reputations. Heads of dental colleges have been heard to express such views even since it has been shown that streptococci are the cause of fatal disease about the mouth and that dental pulps may become infected from exposed dentine.

Dr. Irving Abramson has called our attention to the fact that his name did not appear among those having graduated from the School of Dentistry of the R.C.D.S., Toronto, 1925. We regret the omission, the cause was the omission from the official list.

A correspondent asks why amalgam should be mixed in the hand even after it has been triturated in a mortar. He says by so doing it must become mixed with moisture and particles of the skin, neither of which adds anything to the value of the amalgam.

Dominion
Dental Journal

Vol. XXXVII TORONTO, SEPTEMBER, 1925 No. 9

# ORIGINAL COMMUNICATIONS

## Eastern Ontario Dental Association

PRESIDENT'S ADDRESS, JUNE, 1925.

*H. Winters, D.D.S., L.D.S.*

Gentlemen:

I welcome you to the 48th annual meeting of the Eastern Ontario Dental Association, which is distinguished by being one of the oldest, if not the oldest, dental association in Canada, and has been identified with many of the steps of advancement that have characterized the dental profession. It has numbered among its members such men as Beers, Hannah, Robertson, Martin, who have passed to another sphere of action and whose memories we all revere. Since our last meeting two events of great and far reaching importance to the dental profession and indirectly to the public have transpired. The Royal College of Dental Surgeons, by an overwhelming majority, has decided, in co-operation with the University of Toronto, to make the school of Dentistry a faculty of the University.

This, in my opinion, is the most progressive move that has taken place affecting the dental profession in recent years. It will not only greatly aid in raising the status of the profession in the estimation of the other learned professions but will ultimately result in a much more comprehensive training for dental students than they have hitherto enjoyed. The very fact of pursuing their studies side by side with students of other scientific faculties of the University will tend toward a mutual respect and deeper sympathy and will foster a spirit of co-operation that cannot but be beneficial to each and incidentally to the public whom each in its own sphere is aiming to serve.

It is hoped that the Faculty of Dentistry will, by its new relationship, have ample funds at its disposal to give the best that is available to its students and not be, as heretofore, handicapped by annual deficits that have in recent years been a growing worry to the board. The social status

of the dentist will be improved, though the improvement will be gradual. Social ostracism has undoubtedly been all too prevalent. One of our journal editors has quite recently called attention to the fact that dentists have been denied admission to scores of social and athletic clubs because of the fact that they "cleaned" teeth. This is a deplorable thing and every member of the profession should use every legitimate means in his power to remove this unjust and foolish stigma. Once the public discovers that the dentist's academic and scientific training is equal and in many cases more comprehensive than the sister professions, a change in this respect will be brought about. The appreciation will gradually filter through to the public by the respect promoted in the college halls and class rooms.

The other important step that has been taken is the establishment of a Department of Dentistry under the Provincial Department of Health. I understand that the policy of the Department is as rapidly as possible to establish dental clinics in the Public and Separate Schools so that the children of the poor may have the dental service that is so badly needed. This will be brought about by a campaign seeking to educate the public as to the need and advantage to the child of dental service. Once the need is brought home to school boards, governors and trustees of hospitals, municipal councils and the rest the providing of clinics to supply the need will be comparatively easy.

How can we as dentists promote this work, if the public are to be educated as to the advantage of oral hygiene and healthy dental organs? It is the Dental Profession that has to act as tutors, first by upholding the hands and co-operating in every possible way with the head of the Dental Department and the officers under him; secondly by taking a greater interest in the municipal activities of the communities in which they live, by seeking election to municipal councils, boards of health, collegiate boards and by aiming to get representation on hospital boards. It is deplorable that dentists, I suppose because of the arduous character of their work, have been prone to shirk responsibility in this regard, but it would in my opinion be a great advantage culturally, to take a greater interest in public affairs; it would broaden the vision and he would bring back to the routine of the office work a new inspiration that would tend to make his calling more worth while.

We note with interest the establishment of a dental department in the Western Hospital, Toronto, under the direction of Dr. Harold Box, with Dr. Thompson, a recent graduate, as interne. Dr. Box has associated with him Drs. Robb and Amy, the latter known to most of you. This is another very important advance and should be emulated in all centres of population. It is a deplorable fact that in our Civic Hospital in Ottawa, which is said to be the last word as to building and equipment, little or no provision has been made for the dental department. We hope that the oversight will soon be remedied.

The note to be stressed in all our dealings with the public should be service. If we have entered the ranks of the profession with the idea of making money and reaching a position of affluence, those of us who are getting along in life have long ago abandoned any such illusion, but this does not mean that great satisfaction may not accrue as the every day compensation in our work, of having in some small measure mitigated some of the pain and distress incident to human frailties.

# Interpretation of Dental Radiographs

*Sydney W. Bradley, D.D.S., M.D.S., Ottawa, Ontario.*

**Read before the Eastern Ontario Dental Association.**

One of the greatest aids we have in dentistry today, is the radiogram, but to benefit from it, and read it intelligently, we must know normal anatomy, and histology, to enable us to distinguish the normal from the abnormal.

Radiograms are not photographs. What X-rays do is, record on a photographic film, differentiation of densities. They are the result of a certain amount of light penetration. They are permanent records of the resistance to such penetration that objects in any rayed area possess. Crowns, fillings, pins, and gutta percha points, in roots, show white, be cause the X-rays do not pass through them, and act upon the sensitized film. Enamel bone whorls, dentine, cementum, and bone, are less dense and the rays pass through them, leaving a darker impression on the developed film. Canals, foramina in bone, any areas of lessened density, the soft tissues, lack resistance to the rays, and show different degrees of darkness, ending with a jet black, where there is no resistance to the rays.

Radiograms do not disclose areas of infection, but rarefied or radiolucent areas, and dense or radiopaque areas. You cannot tell if these areas are infective without a bacteriological or clinical test. Infection casts no distinct mark upon a film which will denote infection.

What should a radiogram possessing diagnostic value show?

1. The alveolar process.
2. The walls of the alveolus.
3. The peridental membrane.
4. The cementum.
5. The dentine.
6. The pulp.
7. The enamel.
8. The gums and the soft tissues.
9. The black area of a film that has been exposed to the direct X-rays.

It should show the roots and the crowns of the teeth clearly, and all of the tissues surrounding the roots of the teeth, without shadows and with as little distortion as possible.

Let me describe briefly these various tissues and their radiographic appearance.

First: Continuous with the forming part of the maxilla and the mandible is the projection of bone that grows up around the roots of the teeth and forms the sockets in which they are held by the fibres of the peridental membrane. This is the alveolar process. This process is shown in a radiogram as a spongy cancellated network of bone entirely surrounding the tooth. Normal alveolar process shows a cancellated structure with definite, clean-cut, but with quite irregular lines. This structure is invariably affected by pathological conditions. An increase or decrease in the density of this structure, shown by radiopaque or radiolucent areas, are indications of pathology.

The wall or lining of the alveolus is shown in a good radiogram as a thin white line, called by different authorities, the Peridental Lamellae, the Stratum Durum, or Lamina Dura. A break in this line or the entire absence of it, are indicative of pathology, due to trauma or infection.

Between the roots of a tooth and the lining of the alveolar socket there is shown in a good radiogram, a thin black line, the peridental membrane. Trauma or infection may cause a thickening of this membrane, either at the expense of the lining of the alveolus, or the cementum of the tooth root. In some cases the continuity of this line is definitely broken. Any definite irregularity likely indicates a pathological condition.

Pericemental irritation and infection is shown by a roughening or irregularity in the outline of the tooth root, affecting the cementum.

Hypercementosis or exostosis is shown by an enlargement of the root. This enlargement is apparent at the point of irritation, usually about the apical third of the root.

Secondary deposits of dentine along the walls of the pulp chamber are caused frequently by traumatic, thermal, or other irritation or infection of the pulp. These deposits are apparent in a radiogram by a narrowing of the pulp canal, and in increased radiopacity of the pulp to the rays.

The normal pulp is shown in the radiogram as a dark radioparent mass, filling the pulp chamber and roots of the tooth, and finding an outlet or outlets at the apex of the root. An increase in the radioparency of the pulp is indicative of an acute pathology. An increase in density indicates a chronic condition such as pulp stones, secondary deposits of dentine along the walls of the pulp chamber, or pulp sclerosis.

The enamel covering the crown of the tooth is more dense, consequently more radiopaque than the dentine or cementum.

Caries is shown by an increased radiolucency of all the parts affected. A dark area extending from the contact point of any exposed surface of a tooth through the enamel and into the dentine, is caries or may be produced by cavity preparation, or a synthetic filling.

The gums and soft tissues surrounding the teeth are shown as radiolucent or dark areas. In a good radiogram these tissues should show slightly less radiolucent than any part of the film that has been exposed to the direct X-rays.

Let me now give some of the anatomical structure to be noted in reading dental films. (a) In the maxilla at the median line we have the median suture, the anterior palaine canal, foramen and fossa, often mistaken for periapical destruction above one or the other central incisors, especially when the film is taken with the direct rays going through the lateral or cuspid. Above the incisors a short distance, we have the radiolucent nasal cavities separated by the radiopaque nasal septum. Above the lateral and cuspid is found the lateral or canine fossa, varying greatly in different cases. The maxillary sinus or antrum of Highmore, is very often mistaken for a pathological area of destruction, especially when the radiogram shows a septum or two. The molar shadow is radiopaque and causes us more trouble than any other structure in making good radiograms. The posterior palatine foramen and fossa are sometimes ignored, and vital second and third molars have been sacrificed as a result. The coronoid process of the mandible is seen in upper molar films and might be taken for an impacted or unerupted third molar, by a beginner. The mandible presents first the incisive fossa, found below the incisors on

either side of the median line, or in one large fossa, extending from cuspid to cuspid. Sometimes the inner and outer plates almost meet in this region and result in a radiolucent area, mistaken for a diseased condition. The mental foramen is found in the majority of cases below and between the apices of the two bicuspids, although it may be found mesially or even as far distally as the first molar. From the mental foramen, the inferior dental or mandibular canal extends to the distal and the incisive canal to the mesial. A radiogram of proper texture will usually show these canals. Underlying the lower molar teeth and coinciding in a great measure with the course of the inferior dental canal, will be seen a broad radiolucent area. This is a depression on the inner aspect of the mandible; the mylo-hyoid, or sub-maxillary groove, lying beneath the mylo-hyoid ridge. The shadows of the retromolar fossa, and the mandibular foramen must be kept in mind, in examining lower third molar areas.

The production of good radiograms requires the co-ordination of many factors, the failure of any one resulting in the failure of the finished product. The principal factors are: proper equipment, correct angle of the rays on a properly placed film, proper back-up or penetration, proper time of exposure, and correct development, fixing and washing, and mounting on neat film mounts. I am not going into detail with regard to these factors as it is aside from the text and would take considerable time.

(b) How does a radiographer reach his conclusions when reading films? He cannot make bacteriological tests, unless he is a bacteriologist. He cannot do it by experimental research, for he has not the means, time, ability, or inclination, to do research work, but by reading the results of men who do this work and of the clinical findings of men in general practice, and from conversation with those who refer patients to him, a good working foundation may be built up, and in time definite knowledge is obtained.

There is a difference between interpretation and diagnosis. Interpretation, or reading the radiogram shows the variation from the normal. These findings must be checked clinically, and verified, before a diagnosis can be made. The longer I am engaged in this work, the more conservative I become in my interpretations, and the more I realize the difficulty of deciding when a tooth should be retained, or removed. Radiograms by themselves are not much use. Clinical examination and a history of the patient's general health are absolutely essential in almost every case.

Dr. John A. Pollia says, accurately made films do not lie, and I believe that is true. A careful radiographer should produce 75 to 90 per cent. of good films. Poor radiograms are absolutely no use at all, but I want to say right here, that sometimes the films that may not look just as clear as they might be, are the best that can be obtained under the conditions presented. I am thinking now of those patients with a very low palate, and small dental arch, and those whose alveolar tissues and overlying bony structures are so dense, that they are about equal to the density of the tooth roots themselves. In these cases it is next to impossible to get clear radiograms, which are of diagnostic value. Take the upper second and third molars for example. I have never been satisfied with my own results here, nor have I seen perfect results done by other men. We all get good results in these areas at times, but I would be delighted if I could increase the percentage of my good results with these teeth.

I try not to discuss with patients what we may find. I like to send the films with my interpretation to the dentist or physician referring the

patient to me. Patients may turn around with films and get half a dozen interpretations from half a dozen persons, all honest, but looking at results from different viewpoints. What will be the most good to the patient is the proper point of view to take, and there may be more than one opinion here too. Of course if a patient comes for their own personal information, I give them the films with my report, only when they ask for it.

During the last decade, radiography, perhaps more than anything else, has been the means of bringing the medical and dental professions into closer relationship and co-operation, but let us remember it is only a supplemental science. Greater perfection in it is particularly desirable, because it means more perfect dental and medical work, and better health for our patients.

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# Oral Surgery of Interest to the General Practitioner

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*D. C. W. Coupland, D.D.S., Ottawa, Canada.*

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**Read before the Eastern Ontario Dental Association, June, 1925.**

It will be to the purpose of this paper to give points of interest to the general practitioner and to give as much practical knowledge as possible.

In a paper such this, it is only possible to touch on a few phases of oral surgery and diagnosis, surgical exodontia, surgical preparation for dentures, hemorrhage and after pain have been chosen.

*Diagnosis*:—

A special essay should be given on diagnosis and then the field would not be nearly covered. It is essential that the dentist be familiar with dental and oral pathology and have some knowledge concerning differential diagnosis of the various lesions that the oral cavity is liable to be affected.

The teeth alone should not be the horizon of the dentist. By means of a good light and drying the tissues, examinations should be made for fistulae, ulcers, mucous patches, etc. The color and texture of the mucous membrane should be noted. Absence of teeth that are sometimes impacted should be looked on with suspicion. By careful palpation depressions and elevations on the bone can be located, these may bring to light impactions, cysts, necrosis, or neoplasm.

The tongue should be depressed and the condition of the soft palate uvula, tonsils, etc., noted. Diabetic, antral or Vincent's infection can be smelled. Fluctuating abscesses, cysts or neoplasm can be palpated. Tumors that are removed should undergo pathological examination where there is any suspicion. If any suspicion before operation, section should be made and forwarded to pathological laboratory.

A complete history of the case should be taken and X-rays of the case should be at hand. This takes longer but it prevents the quick diagnosis that often leads to consequences that are not pleasant such as treatment of root canals for months or removal of pulps of normal teeth where the trouble is a cyst.

Diagnosis is not easy in many cases, especially where a large number of pulpless teeth are present in the mouth and systemic disease is present. The physical condition of the patient and the nature of the systemic trouble will have to be considered.

Where systemic disease is present and the patient's resistance is below normal any suspected focus of infection should be removed.

If the dentist asks himself the question, "If this were my own mouth and my physical condition were similar to this patient's what would I do"? This will simplify many puzzling cases.

*Surgical Exodontia*:—

Certain conditions cause extractions to be difficult, such as changes of tooth tissue where the pulpless tooth is brittle and cannot be removed by forceps. Teeth with bent or curved roots or other abnormal formations often present problems in extraction as do the exostosed roots and ankylosed teeth. Impacted and unerupted teeth also cannot be extracted in the ordinary routine way.

In many of these cases a muco-pereosteal flap will have to be raised. In flap operations we should apply the law of common sense and with a gentle manipulation of the tissue remove the minimum of bone to enable us to do a thorough operation. The alveolar border of the bone should be preserved if possible and septum between roots should be removed rather than the compact bone of the buccal plate. Bone margins should always be smoothed down, all small particles of bone and debris should carefully be removed from sockets, soft tissue should be moulded back to shape and sutures only be used where the flap will not remain without them.

In giving an example and technique of a flap operation let us consider the extraction of the upper first bicuspid. The forcep has been carefully applied and gentle luxation has been tried and the result has been that the apical third has remained in.

The socket is carefully sponged and we see the two fine apices in place. To attempt force with an elevator is to run a big chance of forcing a root into the antrum, so a flap operation is decided on.

*Technique*:—

A semilunar incision is made opposite the apical third of the root. Retractor is used to expose the bone from which the tissue has been raised with a pereosteal elevator. The bone is carefully removed over buccal root, a fine elevator is inserted at apex of root and with a downward motion the root is dislodged. There still remains the lingval root. The fine straight elevator is inserted through the window in the bone, the septum of bone between buccal and lingval roots is removed, and the lingval root removed by inserting the fine elevator through the socket of the tooth, the fine edge worked in between the root and the lingval plate of bone. A gentle luxation and the delicate root is dislocated and is easily removed. Two sutures are inserted in the incision, Dermal suture has given admirable service and is easily handled. The sutures may be removed in five days.

If in an attempt to remove the bicuspid, the crown and only a small part of the root has been removed so that practically the whole root remained and the same could not have been removed by forceps or elevator without considerable damage to the alveolar process, the following procedure would be indicated. An incision starting at the mesial of bicuspid and running slightly forward for about 2 cms. is made. In many cases

no posterior incision is necessary. The mucopenostum is raised and the bone over the bicuspid is exposed. The outer plate is removed, a fine elevator is inserted between root and lingval plate of bone and root is dislodged. The flap is moulded into position, the line of incision is resting on bone and flap will hold. Two sutures are inserted which are removed in five days.

*Impacted Teeth*:—

The teeth that are most often impacted are third molars and cuspids. Impacted mandibular third molars may be either in a vertical or horizontal position and are either inclined toward the second molar or toward the ramus of the mandible. They may lie toward buccal or lingval.

The roots of the third molar are either straight or curved. A straight root can be removed in a vertical or upward direction. A curved root must be removed in the direction of its curve.

Many teeth are practically erupted and covered only with mucous membrane. Many of these can be removed simply by the application of a straight elevator used with a rotary motion. Much force must not be used or fracture of the mandible may result.

Other teeth may demand removal of bone. A straight root may require but bone removal only and then be removed quickly in a vertical direction. Curved roots require more bone removal as they must be rotated out.

Where teeth must be rotated mesially, and resection of bone may cause injury to the peridental membrane of second molars, a portion of the crown of the third molar should be resected, where rotation would dislocate second molar, the entire crown should be resected, elevator applied and root rotated out.

Every impaction should be carefully studied with X-rays at hand and every step in technique planned and decision made whether root will be removed in a vertical direction or be rotated out, whether bone removal alone will suffice or if bisection of crown will be necessary.

*Impacted-Maxillary Third Molars*:—

These as a rule are much simpler to remove. An incision is made over tuberosity and another incision toward cheek. The flap is laid back and bone necessary to expose tooth is removed. A sharp straight elevator is inserted and rotated and as a rule the tooth is quickly dislodged.

*Impacted Cuspids*:—

Cuspids may be palatally or lingvally with relation to other teeth. Occasionally they are interlocked and prove extremely difficult to remove without disturbing neighboring teeth.

The type that lie buccally are easiest of removal. Incision, raising flap, removal of bone, application of elevator and removal of tooth are steps in operation.

Most impacted cuspids lie palatally and must be removed from plate. Incision is extended along median line posteriorly also along alveolar border. Flap is laid back and held by means of a suture passed through the flap and tied to molars on opposite side.

Bone is then removed over crown of tooth, often the operation is facilitated by removal of crown first, drilling a hole through bone into root inserting a fine straight elevator and forcing root down into socket where crown was located.

*Cysts and Tumors:—*

The most common type of cysts found in the oral cavity are radicalar cysts and dentigeous cysts. These cysts occurring in oral cavity develop unfortunately without pain and frequently assume large proportions, with a resultant tremendous destruction of normal tissue, without inconvenience or knowledge to the patient.

The most common type is the radicular cyst. These are nearly associated with devitalized tooth or tooth root and are frequently found in edentulous jaws.

The etiology is not clearly known. In all probability it begins with the granuloma. It is not understood why some granulomae develop into cysts and some do not. It is a clinical fact however that certain granulomae increase in size until a cavity in bone is formed which is lined with epithelium. The contents of the granuloma undergo decomposition and a fluid content remains which gradually increases and the bone surrounding the cyst undergoes resorption. These may invaginate the walls of the maxillary sinus and completely obliterate this cavity, in the mandible they may extend until the coronoid process is destroyed without perceptible inconvenience to the patient. In all cases the development of these cysts is invariably chronic and of a slowly progressive nature. As a rule no disturbing signs or symptoms arise until they become infected, or some important structure is pressed upon, or until they become so large that a change in facial contour is noticed. By this time a large amount of tissue has been destroyed. The outer plate of bone has been resorbed by the pressure of the increasing cystic fluid until on palpation it conveys the sensation of palpating parchment or of an egg shell cracking. Occasionally these cysts may become infected either by rupturing into the oral cavity, or by surgical interference through an error in diagnosis, the dentist assuming the cyst to be an abscess and opening it for the purpose of establishing drainage. In such cases there may be symptoms of infection and pain may be associated with the larion. The cystic fluid may vary in color from light amber to dark brown or yellow depending on the length of time the cyst has been in progress of development, or whether or not infection is present. The aspiration of this fluid is a pronounced diagnostic feature in making a differential diagnosis.

*Treatment:—*

The operative procedure is to incise mucoperiosteum, elevate it in order to expose osseous tissues, remove outer plate of bone if it has not already been destroyed, if sac has not been broken puncture it near lower border and withdraw contents through needle into record syringe. This prevents the cyst fluid from flowing over field of operation in case sac is accidentally punctured during removal. The sac is completely dissected out, the bony edges smoothed down, and flap sutured into position.

The wound is packed with iodoform gauze and changed in 48 hours. This is continued until granulation occurs.

*Surgical Preparation for Dentures:—*

There are sound basic principles underlying surgical preparation of mouths for dentures. In shaping up a mouth we should do so with a view first to Stability of Dentures and secondly to Esthetics.

The patient is observed carefully when smiling and when in repose. After estimating visually how much alveolus should be removed, the mouth

is then studied to see if removing that amount of tissue is going to impair the stability of the denture. In studying the mouth with stabilization of dentures in view, mounted models in correct jaw relation should at hand. These are invaluable as certain jaw relationship contraindicates surgery. Protruded mandible contraindicates surgery in maxilla. Retruded mandible contraindicates surgery in mandible. The ideal for stabilization of dentures is parallel walls with U shaped ridges as settling of dentures to place will maintain peripheral valve seal. It is permissible to leave certain undercuts, for example, one tuberosity may protrude slightly and the other may have a distinct bevel. The denture in this case could be seated by allowing it to be placed over slightly protruding tuberosity first, in insertion in the mouth. Bony nodules form on hard palate which may be often removed to advantage.

Very often muscle attachments are very low and interfere considerably with the stability of the dentures. The muscle trimmed impression for the dentures is taken with these in place. They are then removed from the plaster model and denture made. When denture is ready for insertion the muscle is released and dentures immediately inserted.

*Operation of Alveolectomy*:—

*Anaesthetic*—Block anaesthetic in most cases is the anaesthetic of choice. Patient co-operation, bloodless field, time of operation are important factors determining this.

*Technique*:—

In most cases, teeth are extracted and the mouth surgically prepared following this. In cases where the patient has heavy bone over the cuspids and molars, this should be relieved in the gingival third of the root by means of chisel and mallet before extraction, this prevents fracture of a large area of alveolar plate. Following extraction of the teeth, the mucoperiosteum is extracted, the buccal plate is bevelled to the height desired and the points of bone on the lingval surface smoothed down. If the labial ridge is too long, this is shortened by removal of excess bone. In shortening the labial ridge, care must be used in order that the nosopalative nerve, emerging through the Incisive Formen is not injured.

In removing the undercuts by bevelling the buccal plate of bone, the natural centre of the ridge must be maintained and the bone septa between the teeth must not be removed.

The tissue is incised with lancet, mucoperiosteum raised with pereosteal elevator and held with tissue retractor, the labial surface of bone bevelled with side cutting rongeur, points on lingval removed with same rongeur, all points smoothed down with surgical file, sockets cleansed of small particles of bone and debris with Molt Curattes, held lightly in fingers. The entire field is washed with a saline solution and flaps moulded back to place. By feeling with the finger tips edges and points can be felt and quickly removed at this time.

When this flap is moulded over the bone, the surplus should be excised with curved scissors. The flap should be held in position with one hand and the scissors used with the other. This prevents cutting off too much tissue.

X-rays should be at hand to avoid entering antrum and also to disclose granuloma, cysts, etc., which can be removed at time of operation.

Contrary to the general idea it is rarely necessary to suture a flap moulded to place and having bone support will stay in position and this removes any danger of ridge of scar tissue where sutures are too tightly drawn.

The best results from this operation are observed in cases where impressions are taken immediately after operation, base plates made and inserted for a short time and dentures then made. It is a clinical fact that dentures with balanced occlusions, inserted at this time, are associated with rapid bone degeneration and a minimum of absorption.

*After Pain*:—

One of the questions very often asked is "What do you do for after pain"? Dr. Henahan gave us food for thought when he said that the best way to control after pain was to prevent it.

Strict asepsis in operating room, sterile instruments, sponges and dressings, sterile syringes and anaesthetic solutions, slow injections of solutions of body temperatures, careful manipulation of soft tissues, removal of all loose edges of bone and smoothing down all sharp edges of process will do a lot in prevention of after pain.

Even with all this care, after pain will be experienced in many operations. The patient is advised to apply ice bags to the affected area for two hours, and fifteen minutes of each hour following and where the operation has been severe. Frossts 222 tablets are advised 1 every four hours. Hot foot baths at bed time, all the rest possible and all the water the patient wants to drink, but no rinsing of mouth with water over area operated on, as there is danger of disturbing blood clot and encouraging hemorrhage.

Some patients develop dry sockets in spite of everything. Soothing dressings of guiacol and olive oil for a day or two will suffice in many cases. The pain will persist in other cases and stimulation of the fresh blood clot under general anaesthetic seems to be the best treatment.

Where patients are in pain and dressings are to be used, they should be applied between 4 and 5 p.m. This as a rule will carry the patient through the long hours of the night when the body resistance is low and pain would otherwise be experienced.

*Hemorrhage*:—

The best treatment of hemorrhage is application of pressure. The socket or sockets are located that are causing the trouble. The blood clot that is in all probability of quite an extent, is removed, and any loose pieces of process picked out.

If it is a mild case the insertion of a small gauze pack and allowing the patient to close on it with the opposing will suffice. The patient remains quietly and in a prone position for one half hour or longer.

If the hemorrhage is quite marked a compound saddle is made to envelop the buccal and lingval plates, this is made with a biting surface for the opposing teeth, in order when the patient closes, pressure is exerted on the compound saddle. Two or three layers of gauze are laid on the compound saddle and it is put to place. The gauze exerts the additional pressure needed and the hemorrhage ceases immediately that pressure is exerted. The patient is made to lie down and keep the continued pressure over the area. It may be necessary to continue this one, two or three hours or even longer.

The advantage of this method is that on removing the saddle a contoured wound with a fresh blood clot remains, which in all probability will heal by first intention. Where the socket is packed a gaping wound that heals by second intention is left.

It has been the endeavor in this paper to give practical aid in some phases in oral surgery. In oral surgery as in other branches of dentistry we must be conservative but we must also be radical enough to be thorough, and the Golden Rule is a tremendous factor in determining what thoroughness means.

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# Some Factors in Diagnosing Cases that Require Early Orthodontic Treatment

*C. H. Juvet, D.D.S., L.D.S., Ottawa*

The paper which I have prepared for presentation to you today is based on my own clinical experience, and the models shown are but a few of the infinite variety that I am convinced represent forms of malocclusion, which, if corrected early and retained for a sufficient time, will ordinarily leave the patient without any of the permanent ill effects and the associated evils of malocclusion.

I also believe that these same cases would have yielded more satisfactory results, so far as the correction of the associated disturbances are concerned, if the treatment had not been delayed until even eight or ten years of age, even though it was possible to establish very good occlusion in these cases at a later age.

In the natural order of things, there seems to be a time and place more fitting than any other for the occurrence of events concerned with the development, and when Nature is not able to keep up with this schedule she needs assistance.

Orthodontic interference seems to be the only available help at this time, and the Orthodontist will not only have a much easier task if he comes to the rescue when Nature is putting forth her own greatest effort, but is much more assured of obtaining the ideal results which he aims to obtain.

If the treatment of malocclusion or lack of development is undertaken anywhere from four to six years of age in the cases where it is clearly indicated, the physical force required to stimulate growth is so slight, that it is a negligible quantity, and this is not true of the force required to make corrections in teeth that are approaching complete development.

More important still, is the fact, that if you are able to produce a renewal, or to create a new developmental activity at this very early age, you will avoid a stress and reflex disturbances that result from a large number of what really amounts to impacted teeth with the associated evils of which we are all too well aware.

The irritating effect of a jaw full of teeth, so crowded together, that they are forced into abnormal positions and their eruption often delayed,

is in itself a cause of profound disturbance, much greater than that temporarily produced in correcting cases, even where treatment has long been delayed.

The results obtained in the treatment of younger children have been so satisfactory, that I sincerely wish I might never be called upon to treat a child again who is past eight or ten years of age at the very oldest.

There is, I know, an impression quite generally entertained, that it is exceedingly difficult to manage such young children successfully, but if one takes advantage of the reasonable and legitimate psychological possibilities, the whole thing can be made to appear almost in the light of a special privilege to the child, and his confidence and co-operation becomes a joy.

We also avoid the very trying experience of having the patients complain because of the unsightly appearance of appliances.

It is, of course, true that with many children who go under treatment early, we are compelled to keep some appliances on until the permanent cuspids erupt, but in the majority of such cases, it is possible to make them very inconspicuous, and so far as the bands or appliances having any ill effect is of little consequence, as the temporary teeth used for retaining the appliances are approaching the time of their loss.

We can also guide incoming rotated teeth into their correct positions, by simply attaching springs and spurs to the lingual retaining arch, allowing these to act as obstructions to the teeth in their efforts to erupt in malposition.

It should require no argument to convince anyone, that teeth so compelled to erupt in their correct positions are much more liable to permanently remain so, than are those that are moved after eruption when the roots are out of position to an approximately corresponding degree.

A further advantage in early treatment, especially for girls, is that of carrying on the treatment before puberty, and so avoid the treatment being carried on at this trying period, a combination of circumstances that should especially be avoided in these days of "high tension" school work, and in a very large measure, we are able to do so by stimulating development at an early age.

As already mentioned, it is often necessary to keep lingual appliances on until after puberty, but of how little inconvenience this is to the patient, as compared to moving from twenty-four to twenty-eight teeth, much of which have attained practically their full root length, and which will naturally require a considerable degree of force to produce the required changes at such a trying time.

The late Dr. Cryer has shown by dissection of a frozen subject, that if the oral space is smaller than normal, the tongue is forced back into the throat when the teeth are closed, and it in turn pushes the soft palate up and back against the post-pharyngeal wall, thus compelling the patient to breathe through the mouth, even though the nasal spaces may be normally developed.

This is one reason more vital than all the rest why we should interfere as soon as a positive diagnosis can be made, for by so doing we can actually prevent the long chain of associated evils, with which you are all familiar.

There is a cause for adenoids, and I am inclined to think that narrow dental arches will be responsible in the majority of cases. Adenoids induce mouth-breathing, and if the mouth is kept open there is a tendency to compress the arches.

It is, therefore, most important that abnormally narrow dental arches should be carried out to a normal width, thereby allowing the tongue to come forward, which will relieve the obstruction of the pharynx, permit freer respiration, drainage and ventilation, and also relieve the congested condition of the erectile tissue and mucous membrane of the nose, accessory sinuses and ducts. This will in turn assist in giving breathing space, improve olfaction, and in some cases give better hearing, thus breaking up the viscuous circle produced by narrow dental arches.

The uvula is twisted, the tonsils, the epiglottis, and the larynx are out of shape from pressure of the tongue, produced, not by a narrow floor of the nose, but by a narrow dental arch, which would make it extremely difficult to carry on free respiration, and impossible to perform the deep breathing required by great exertion.

This morbid condition brings a further congestion and thickening of the mucous membrane of the nose and its accessory sinuses.

If the dental arches be widened, permitting free respiration, drainage and ventilation, the congestion of the soft parts will disappear, and there will in this way be greater width to the nose and improved general health, because the tongue is liberated and given room.

The internal structures of the face may be very much compressed, and the floor of the nose be of fairly good width, the arch of the mouth being very narrow in proportion to the floor of the nose. The mandible is also narrowed, consequently the tongue is very much compressed and out of shape, and is forced backward into the pharynx, thus cutting off respiration, especially when the mouth is closed.

It is also well to bear in mind, that this early correction prevents the facial deformity, which always accompanies marked malocclusion, especially in Bilateral Mesiocclusion or Distocclusion cases.

Another important consideration from a purely dental standpoint. In beginning work for children from four to six years of age, we are able to use the temporary teeth for anchorage during the greater part of the treatment and retention, and very often during the entire period. This relieves the first permanent molars, and the tissues surrounding them from the common sources of injury.

There will, of course, be differences of opinion as to the age at which treatment is advisable, but all Orthodontists agree that those of a well marked type of mesiocclusion and distocclusion, should be corrected as early as it is possible to handle the child comfortably.

The majority of children can be managed nicely at about four years of age, and if a child happens to be of an extremely timid nature, I would much rather wait until six years of age than to frighten him unduly or to fail in gaining the necessary confidence.

The most common type with which we come in contact, and the one where the greatest difference of opinion prevails, is in neutrocclusion cases, in which we find developmental spaces entirely lacking.

We now come to the point in the paper, which was my whole object in the preparation of this paper, viz, to endeavor to overcome that which seems to be a puzzling problem to the general practitioner, and a subject that he seems to be at a loss to be able to solve on so many occasions, viz, how to know when to advise patients as to the proper time to begin treatment, or in other words, to be able to diagnose when treatment of the

temporary arches is advisable, and when it is not advisable, or questionable.

From my clinical experience, I have come to the conclusion that a child whose general development, including the jaws, is quite normal, will begin to show very slight spacing between the anterior teeth at about four years of age, and this, of course, should progress rapidly enough to provide the necessary room for the larger permanent teeth. If, however, the child's general development is somewhat slower than the average, we may expect the spacing to occur at a correspondingly later time.

If the jaw development is clearly slower than the general development, then you may look for a malocclusion to result, unless interference is begun early.

Dr. Watson, of Detroit, says he has never seen a child develop a normal occlusion where temporary dental arches showed absolutely no additional growth at five years of age.

Now the question is, how are we to know that the arches are not developing normally? This question can be readily answered if you will follow the observations made by the late Dr. Bogue, of New York City, whose observations cover a longer period than any other man I have ever heard of, and whose clinical observations have covered more early cases coming under his observation, owing to his having carried on a very large general practice as well as a practice of orthodontics, and his observations follow:—

"It has taken years to find out, that what we need to correct is not irregularity among the permanent teeth, but deficiency in the vital forces of the child, which result in a failure to develop properly."

Irregularity of the teeth is only one of the symptoms of this failure to develop. The normal child at the age of 3½ years, should have an upper dental arch of at least 1 10/100 in lateral width in the temporary molar region, measuring from the gum margin of the second temporary molar.

The earlier a physical defect in the child can be distinctly diagnosed and corrected, the better for the child. Both projecting maxillary and mandibular jaws, which are too often attributed to sucking the thumb and fingers in infancy, arise from arrest of development in the jaw where the expansion of the arch is deficient. By undertaking the treatment as soon as a defect is manifest, it is possible to bring about a normal development by using only the temporary teeth for anchorage, and banding only the temporary teeth, thereby obviating any danger to decay of the permanent teeth through bands having been worn.

The arches having been brought to normal development at that age, you can fairly well depend on the tongue to maintain development until the eruption of the permanent teeth.

There is a pressing professional obligation upon each of us to learn to recognize oral deformities or deficiencies, and to suggest to parents the proper steps for correction.

(1) The regulation of the temporary teeth is a most important feature in Orthodontia.

(2) The prevention of dental deformities requires a retention of the deciduous teeth in their proper positions, and proper relations to each other until the permanent teeth are ready to erupt.

Adenoids are a cause of dental, nasal, facial, and thoracic deformities.

The early discovery of and the removal of adenoids, and thorough performance of the functions of mastication and breathing, are the surest preventives of irregularity among temporary teeth.

We find an intimate relation between irregular temporary teeth and the whole category of children's diseases.

Almost all irregularities indicate an arrest in the general development of the child, which are so manifest in narrowed arches, with the chin distal to normal, the tongue being forced back, and closing the normal passage of air through the nose, causing mouth-breathing, and all its associate evils that invariably follow this condition.

Spreading the arches of temporary teeth, enlarges the nasal passages, and allows the mouth to close, thus preventing the entrance directly into the lung of the air borne microbes of contagious diseases, and forcing them to pass through the filter of the nose.

The relation existing between the temporary incisors and the permanent ones, can, by measuring the width of the upper temporary incisors, be ascertained, with sufficient accuracy to furnish a working basis for a calculation of the size of the permanent arches.

The correction of dental deformities before the sixth year, not only assures fairly correct arches of the permanent teeth, but aids in correction of nasal stenosis, due to deflections of the septum, or to too narrow nasal space.

It is most important that all irregularities of the nose, face, or teeth, should be corrected before the sixth year, while growth is at its maximum, as you all know the longer a habit is persisted in, the more difficult it is to overcome, and similarly, the longer the muscles of expression are maintained in an abnormal position, the more difficult it is to bring them to normal.

Perfectly close and regular teeth, after five years of age constitute a marked deformity, and is absolutely a sure indication of a crowded condition in the permanent teeth beneath.

Narrow arches, are, as a rule an indication of lack of vigor, and if we find the arch measuring less than twenty-eight millimeters at the gum margins of the second temporary molars at five years of age, it is wise to assume that they will not broaden without assistance.

"Remove cause" is one of the axioms of the healing art, and orthodontia of the deciduous teeth, is treating causes, it is a recognition of conditions causing malposed permanent teeth, and under-developed jaws, and the correction of those conditions prevents irregularities of the permanent teeth with their attendant evils.

The time and annoyance saved, not to mention the benefit to the health and development of the little patient is hard to estimate.

The members of the dental and medical profession owe it to humanity, and I would add, must be held personally responsible if they do not become conversant with the possibility of being able to successfully diagnose and distinguish these cases, which come under their observation every day, but to which little or no attention is paid.

If advantage was taken of every opportunity of instructing parents in the needs of the child whose face is undergoing malformation, there would be little need to call attention to the possibilities of correcting this particular deformity, at a period when the age of the patient precludes the possibility of its correction by a science of Orthodontics.

One of the greatest services you can render your profession is to be ever alert for incipient mal-development, and ever zealous in using all your influence towards the proper care the forming features may need.

In conclusion:—On behalf of the unfortunate featured individuals unborn and now young, let me beg of you to be more observing of their growing malformations or mal-developments. Most of the facial discords appear in the region between the bridge of the nose and the mandibular symphysis. This is the particular part of the human anatomy of which you have chosen to make a study, and the way in which you apply the great amount of knowledge that is all about you, and yours for the asking, will mark you as a professional success or failure.

It is essential that the temporary teeth be preserved, and normal restorations made when and where needed, in order that the temporary teeth be retained until the proper time for their loss, so as to perform the two principal functions intended they should perform, viz, mastication and influencing the development of the bones of the face and the cranium.

Illustration No. 1 is the maxillary cast of a boy of seven years of age, measuring 1.07 at the gum margins between the two temporary molars and measurement should have been 1.04 at four years of age if development had been taking place normally.

Illustrations Nos. 2, 3 and 4, are the maxillary and mandibular casts in occlusion of the same boy at seven years of age, presenting a neutrocclusion condition, and for some reason or another the treatment was deferred until the boy was thirteen years of age, presenting the condition illustrated in No. 5 having a development of only 1.14 at that age, and a bilateral distocclusion as illustrated in Nos. 6, 7 and 8. If treatment had been undertaken at seven, there is every reason to believe that the normal occlusion would have been maintained, and ample room been provided for the incoming cuspids, and prevented a development of the complications present at the age of thirteen.

Illustration No. 9 presents the maxillary arches at seven and thirteen and after correction demonstrating how much development was necessary.

Illustration No. 10 presents the casts in occlusion at seven and thirteen and after correction.

This is only one of the many cases coming under our observation, demonstrating the advisability of early treatment, and I hope will stimulate a greater interest and responsibility of the general practitioner towards the little patients, who are under his observation in pointing out the necessity for stimulation of development when Nature is not doing so.

*Bibliography.*

Items of interest: Dr. M. H. Cryer, January, 1913.
Items of Interest: Dr. M. Y. Watson, April, 1916.
Dental Cosmos: Dr. Angelo Chiavaro, October, 1916.

# Treatment of Pyorrhea Alveolaris with Inava Vaccine

*Dr. Eudore Dubeau, Dean of the Faculty of Dental Surgery, Montreal University.*

Read before the Eastern Ontario Dental Association, June, 1925.

Two years ago, while I was attending dental meetings in Europe, I was very much impressed with the reports that I heard concerning the use of Inava vaccine in the treatment of pyorrhea alveolaris and other cases of infection of the mouth.

After obtaining all the literature and information that I could get from those who had used it in Paris and elsewhere I decided to try it in our clinic and during the session of 1923-24, my teachers and myself tried it in fifty cases.

Last summer, while I was in Paris, the president of the American Dental Society of Europe, Doctor G. A. Roussel, asked me to read a paper at their meeting, in Amsterdam, Holland, giving my clinical experience with this vaccine, which I did, and it brought a very interesting discussion in which took part amongst others, Sir Chas. Valadier, of Paris; Doctor Flrestan Aguilar, of Madrid, Spain; and Doctor F. H. Brydges, of London; they reported their experience as identical to mine, viz, that the results obtained were excellent in most cases. This year I have used it again in many cases in our clinic and in my private practice with the same good results.

Last year, while I was in Paris, I went to the Pasteur Institute where that vaccine was first prepared, and I had a very interesting interview with Doctor Besredka, former assistant and now successor to Professor Metchnikoff. I asked him what he thought of the vaccinotherapy in pyorrhea alveolaris with the Inava vaccine. Doctor Besredka, who has published very remarkable papers on local immunization, told me that he was not ready to call this preparation a specific cure for pyorrhea alveolaris, but as he had seen wonderful results obtained through its use, he was of the opinion that it should be given a fair trial. Encouraged by such a high authority I have done so with the results mentioned above.

For the treatment, I follow the technic indicated by the author himself, Doctor L. Goldenberg, of Paris: I examine the mouth of the patient very carefully and I ask for a urine examination so as to work in co-operation with the patient's physician if there is any systemic trouble. The injections are made in the sub mucus tissue in the canine regions, upper or lower, as superficially as possible and no massage should be done, the liquid being left to be absorbed slowly.

At the first sitting one drop should be injected and at the second sitting which takes place four days after, at three days of interval, one more drop is to be injected until the dose of six drops has been attained, and then six drops each time until the series of ten injections has been completed.

When the dose is more than three drops it should be injected in two

places and it is advisable to change the place of injection so as to prevent too much irritation.

This treatment does not exclude instrumentation, viz, cureting of the pockets, on the contrary it should be done with great care beginning with the second sitting.

You will find some cases where the results will not give you as much satisfaction as you may desire; in those cases let the patient rest for a month or so and start a second series of injections. If a patient discontinue the treatment for a week or so, the treatment should be resumed starting with a drop less than the previous injection.

Very good results are obtained in various cases of infection in the mouth, such as gingivitis and abscess, and specially in case of impacted wisdom teeth, in which case one drop injected before the extraction will prevent subsequent infection.

In concluding I wish to say that I think we have in this vaccine a preparation which will in most cases render us and our patients great services.

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# Conference of Canadian Universities

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## Committee on Dental Education.

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*Report by G. K. Thomson, L.D.S., D.D.S., Dean of Faculty of Dentistry, Dalhousie University.*

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Although this is the 10th Conference of Canadian Universities, this is only the second report on Dental Education to be presented. Last year, the late Dean Ryan was appointed Chairman of this Committee and he had prepared a report, which as the Conference did not meet could not be presented.

When it was decided to hold the 1925 Conference in Halifax it was considered desirable to appoint a Chairman residing in the place of meeting, and at Dean Ling's request I accepted the responsibility of preparing this report.

I am very glad indeed that Dr. Nolin, of the Dental Faculty of the University of Montreal is present, and his assistance in the preparation of this report is much appreciated.

It is regretted that Dr. Seccombe, of the Dental Faculty of the University of Toronto, and Dean Thornton, of McGill, had important engagements elsewhere, and that Dr. Bulyea, Dean of the Dental Faculty of Alberta University, found it impossible to come.

In response to my request Dr. Bulyea expressed his opinion that our course should not be designated a five-year course. However, there are present today representatives from all these Universities who doubtless are familiar with Dentistry in all its phases, including education.

Prominent Dental educationists and legislators with whom I have had considerable correspondence, favor standardized Dental Legislation, so that the legal requirements for the practice of Dentistry shall be equiva-

lent to the requirements of the Universities, which at present, except in Quebec, Ontario and Alberta is not the case. In Nova Scotia it is practically assured by recent legislation.

Although Dental Legislation may not be discussed to any extent by this Conference, it may interest the members to learn that through co-operation among the Universities and the Provincial Dental Legislative organization the prospects for the standardization of the various provincial requirements for the practice of Dentistry to agree with the requirements of the Universities which are now practically the same in the Canadian Dental Schools, are most encouraging.

*Dental Legislation* is so closely related to, and is of such importance to *Dental Education* that the latter can hardly be considered without reference to it.

*D. D. C.* In Canada we have in the Dominion Dental Council a national organization (not legislative) which is far in advance of any other with regard to reciprocity of license to practice Dentistry.

It accepts for examination students who are graduates of Canadian Dental Schools except those located in Quebec.

Its certificate is recognized in lieu of examination by all the Provinces except Quebec and British Columbia.

Since the establishment of the first Dental College in 1839 the profession of Dentistry has steadily advanced until now it is considered a valuable adjunct to that of medicine and is very closely related to that profession. During the last twenty years the importance of the teeth and mouth to the general health has become so recognized that no modern consultant or diagnostician ignores it, and clinics for diagnosis and prevention of dental infection have been established in schools and public health centres throughout the world.

For this reason the study of Dentistry requires high *preliminary* qualifications particularly in the sciences, *and professional* qualifications embracing medical as well as Dental subjects.

In order that the graduating student may be qualified to intelligently practice, it has been necessary to lengthen the course of study, until now all the best schools require five and some six years, including respectively one and two professional years.

At a recent meeting of the American Association of Dental Schools, of which our Canadian Faculties are members, most interesting and instructive papers were read with regard to the curricula on three different plans for a course covering five years, designated two plus three, one plus four, and five years.

Although no definite action was taken by the Association with regard to any specific plan, it was agreed that the course of study should cover at least five years, and that all three plans were practical, but that any one of the three could be universally adopted.

In New York State for instance, the two plus four has been adopted, in Minnesota the two plus three; while in Canada where the Dental Schools are very closely associated with the other University Faculties, a modified five year plan seems most desirable.

In Ontario, Alberta and Nova Scotia the latter plan is in operation; and in Quebec the two plus four, for students who wish to qualify for practice in Quebec.

For students who wish to practice elsewhere, McGill has adopted the one plus four plan for 1925 and 1926, the two plus four plan to come into effect in 1926-27.

In Ontario, the Royal College of Dental Surgeons has recently become a Faculty of Toronto University.

In Alberta where only three years of the five year course have previously been in operation, the fourth year will be added in October of this year and the fifth in 1926.

It is understood that British Columbia has the establishment of a Dental Faculty under consideration.

A very complete report on the educational situation, which has been in course of preparation for some time, by Dr. W. J. Gies will shortly be issued, and doubtless many schools are awaiting it before definitely planning their courses.

No report on Dental Education would be complete without reference to the valuable services rendered by Dr. W. J. Gies of the Carnegie Foundation and an expression of appreciation of his efforts by this conference is recommended. Your Committee also recommend an amendment of the constitution to formally include in the conference of Canadian Universities, representatives from the Canadian Dental Faculties.

# SOCIETIES

## Officers of the New Brunswick Dental Society

President, A. J. Coughlan, St. John.
Vice-President, Dr. Cromier, Moncton.
Secretary, F. A. Godsor, St. John.

DENTAL COUNCIL OF NEW BRUNSWICK

Drs. Broderick, Bonnell and Boyaner.

Drs. Gillespie, Burden and Brodrick were elected to attend the Nova Scotia meeting as delegates.

## Officers of the Nova Scotia Dental Association

President, W. C. Oxener, Halifax.
1st Vice-President, J. F. Roche, Wolfville.
2nd Vice-President, J. Melanson, Yarmouth.
J. Stanley Bagnell, Halifax

Dr. G. R. Richie was elected to fill a vacancy on the executive committee, and Dr. G. R. Henniger to fill a vacancy caused by the death of Dr. F. W. Dobson.

# Eastern Ontario Dental Association

*Officers* 1925.

President—Dr. H. Winters, Ottawa.

Vice-President—Dr. E. H. Wickware, Smiths Falls.

Sec.-Treas.—Dr. S. G. McCaughey, Ottawa

Auditors—Drs. McBride and Morgan, Smiths Falls.

Programme Committee—Drs. A. W. Winnett, Kingston; O. K. Gibson, Ottawa; W. B. Cavanagh, Cornwall.

Local Committee:

Chairman—Dr. A. A. Smith, Cornwall.

Secretary—Dr. W. B. Cavanagh, Cornwall.

Golf Committee—Drs. R. F. Robertson, A. A. Smith, W. D Knight, Cornwall; Dr. W. A. Armstrong, Ottawa.

Entertainment—Drs. W. B. Cavanagh, J. V. Lally, E. J. Courville, Cornwall; W. C. Macartney, Ottawa.

Local arrangements—Drs. H. W. Weagant, J. T. Coupal, J. V. Broderick, Cornwall; M. G. McElhinney, Ottawa.

*Officers* 1926

President—Dr. A. A. Smith, Cornwall.

Vice-President—Dr. E. H. Wickware, Smiths Falls.

Sec.-Treas.—Dr. S. G. McCaughey, Ottawa.

Programme Committee—Dr. W. B. Cavanagh, Cornwall; Dr. E. B. Baker, Chesterville; Dr. G. M. Gorrell, Morrisburg.

Copy of Text of Illuminated Address Given Drs. Davidson, Davy and Sparks

Dear Doctor—

This Association believes that it is better to recognize a man's value during his lifetime than to shower him with posthumous honors.

Your fellow members feel that there may come no more fitting occasion than the present meeting, and seize the opportunity to voice their keen appreciation of your invaluable services to the Profession, which you have rendered as representative of this District.

We know that such highly efficient service cannot be given without a considerable sacrifice of valuable time, much effort and, at times, great personal inconvenience.

We know that whenever the interests of your District and the Profession were at stake, you unselfishly forgot all other considerations and gave us the best that was in you.

In recognition of these things we therefore elect you to be a Life member of THE EASTERN ONTARIO DENTAL ASSOCIATION with the earnest hope that you may enjoy the privilege for many active and useful years.

Signed:

H. Winters, D.D.S.
President.
S. G. McCaughey,
Secretary.

# Editorial

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**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

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Vol. XXXVII TORONTO, SEPTEMBER, 1925 No. 9

## A Redistribution of Districts in Ontario

The Dental profession of Ontario should give what assistance it can to bring about a redistribution of the dental electoral districts of the province. It seems rather strange that provision was not made in the Dentistry Act to permit or give the Board of Directors power to divide the province into districts in accordance with the dental population following the general census as occurs in the Dominion or provinces for governmental purposes. At the present time the dental population in some districts is six times greater than others, in other words the voice of the dental elector in Bruce County is six times as great as one in Toronto. Ever since Sir John A. McDonald introduced his famous redistribution bill of 1882 gerrymandering the constituencies of Canada in such a way that more of his followers were elected than was warranted by the population, sitting members have become fearful of redistribution. In this case the sitting members have nothing to fear unless they divide themselves into cliques but the electorate might have reason to fear and it is perhaps for this very reason that changes in the boundaries of the constituencies must come before the legislature where those who have views may air them before the Private Bills Committee.

Because there are a great many more electors in one constituency than in another there is no good reason for increasing the members. The present membership of eight is ample especially since the dental school will in future be governed by the University. Dentists should interest themselves in a redistribution, the first since 1892, when the first districts were formed.

# The Other Ninety-nine

One man gets rich by accident. The other ninety-nine out of a hundred must carefully plan and work for financial independence. This note is intended to be of help to the other "ninety-nine" in their struggle to attain comfortable circumstances.

All of us, more or less, are apt to look upon the future as a time of supreme happiness, when our dearest dreams will come true. We are forced, of course, to deal with unpleasant realities for the present, but we are confident that in the near future all difficulties will disappear and we shall be independent and prosperous.

If we were to analyze our hopes and dreams, we would undoubtedly find that the fulfillment of them depends upon some event which is extremely unlikely to happen. In other words, most of us expect some accident to come along and make us independently well-to-do, if not wealthy.

Only a few of us get down to realities, to actual cases, and discover that in ninety-nine cases out of a hundred, nothing will add to our wealth or make our dreams come true except our own efforts. This is a cold, hard world. If we ever expect to get out of the "hand-to-mouth", "day-by-day" class, we must do so by our own efforts—by the aid of well-laid plans formed and put into operation now.

Now is the time for you to decide where you will be twenty years from today. What will you be doing—how will you be living—who will your friends be? Will you be prosperous, happy, successful? Or disappointed and bitter? Your dearest ambitions of today—will they be fulfilled—or will they be but painful memories?

The following figures, assembled by life insurance companies, reveal a startling state of affairs. They show exactly where the average man is drifting—exactly what chance he has of accidental success. Of 100 men, 63 die by the time they are 75, and of the remaining, 95 per cent. are dependent upon their children.

# Notes

"He who goes softly goes far."

Function is not the only factor in determining the size, form or length of bone.

To stop bleeding at the gum margins, most styptics are mussy, but turpentine is not.

Aesculapius had two daughters, Hygeia and Panacea. The first was worshipped as the goddess of health, and the latter, Panacea, has been sought after by all classes of people.

A writer in the "Dental Record" says that metallic pigments should not be used in tooth pastes because they might discolor exposed dentine. He implies that vegetable pigments would not discolor denture. What of tobacco stains of teeth?

In truth the gold crown has the outward and visible sign of the absence of an inward and spiritual grace.

The thirty-fifth annual meeting of the Nova Scotia Dental Association was held at Digby, July 18, 1925.

It is estimated that one dollar and sixty-two cents a head would give the people of England adequate dental services per year.

New Brunswick dentists are offering every help in supporting the Canadian Dental Association meeting in Halifax in 1926.

A healthmobile making the rounds of Los Angeles has an equipment for examining and treating the common defects of children.

The Board of Health of Ingersoll, Ontario, are asking for a special grant because they have established medical and dental inspection.

The Essen factory is said to have given up the making of war supplies and turned its attention to making artificial teeth out of stainless steel.

Mr. J. B. Parfit, Guy's Hospital, London, visited America during the late winter and writes up the Mayo Clinic in a most interesting manner.

The position of an ulcer of the tongue is of importance. Tubercular ulcers generally appear at the tip, malignant at the sides, and syphilitic on the dorsum.

Drs. Ford Butler and Underhill, of Aurora, Ontario, examined the teeth and mouths of 338 children, of these 11 were perfect, 25 needed prophylaxis, of the remaining 302 children there 253 temporary teeth needed extraction and 384 needed filling. In the permanent dentures 46 needed extraction and 791 teeth should be filled.

In a report on the causes of hypoplasia of the teeth by Mr. Cairns, Norfolk, Eng., it is stated that 60 per cent. of the cases gave no history of illness while 40 per cent. had suffered from measles, whooping cough and bronchitis. He inclines to the theory that improper feeding is the chief cause, not one case of hypoplasia was found to have been breast fed.

Mr. G. J. Goldie, writing in the "British Journal of Dental Science" for June, 1925, says that calcium lactate as a drug to stop hemorrhage is of questionable value. Its action is on the vessel walls and not as a coagulator of blood due to the calcium because haemophiliac blood is not always lacking in calcium. Mr. Goldie says coagulation of blood depends upon the thrombokinase present and suggests the local application of protagulin, a stable drug which can be had in glass tubes.

A committee was appointed at the annual meeting of the New Brunswick Dental Association to be known as the Oral Hygiene and Dental Educational Committee to be responsible for the dental education of the public. It was recommended that the committee should write articles for newspapers, dealing with oral hygiene. Such committees have been appointed ever since dentistry was known and but few of them have ever agreed on their own product. The best results have come from the efforts of individuals. Write Harry S. Thompson, 86 Bloor Street West, Toronto, and get any variety of public dental educational literature you want.

Dr. William J. Norris, Brantford, Ontario, died suddenly on July 3rd, 1925.

Dr. M. B. Mallory has returned to Toronto after spending a year with his son, F. R. Mallory, in London, Eng.

Dr. H. A. Ross was the chief speaker and clinician at the New Brunswick Dental Association, Moncton, July 14. 1925.

Dr. Fred R. Mallory, 30a Wimpole St., London, England, paid a flying visit to many of his old friends in Toronto during August.

At the regular meeting of the Eastern Ontario Dental Association in Cornwall, June 26, 1925, Drs. Sparks, Kingston, Davidson, Ottawa, and Davy, Morrisburg were made life members for distinguished services to the Association. Dr. Dubeau, the only dentist in Canada holding the Legion of Honor from the French Government, was made an honorary member of the Association.

The "Beacon Herald," Stratford, Ontario, published on July 29th, 1925, a very excellent article on diet for public reading. Both the public and dentists have been bothered by the expression "Clean teeth do not decay," and now the equally erroneous one, "no matter how clean teeth are they will decay." It is true surgically clean teeth will not decay, but it is equally true that human teeth cannot be made surgically clean in the mouth.

The dental inspector of Nelson in his annual report to the authorities: "There are many children in our schools, especially in the lower grades, who are stunted in growth and retarded in their work because of the impairment of their general health due to absorption from a mouth full of decayed teeth. Why spend money on importing people from Europe when such conditions obtain among our own Canadian citizens who, if allowed to deteriorate, will become a burden to the nation."

At the annual meeting of the New Brunswick Dental Association a newspaper report says that it was decided to take no action against a man for practising in St. John without a license because it would only give him greater publicity. To those far from the scene of action this seems a strange decision. Usually it is better to have it out at once, especially when you are in the right. For twenty years certain amendments to the Dental Act of Ontario would have been an advantage to the public and the profession and yet benefits have been withheld for fear of adverse criticism in the Legislature.

Dominion
Dental Journal

Vol. XXXVII TORONTO, OCTOBER, 1925 No. 10

# ORIGINAL COMMUNICATIONS

## Nitrous Oxide-plus-Oxygen-plus-Somnoform Anaesthesia

E. ROY BIER, D.D.S., WINNIPEG, MAN.

Read before the Canadian Dental Association, Vancouver, 1924.

Some writers would call this synergism or adjuncts to Nitrous Oxide and Oxygen; no matter what you call it, it has a place in anaesthesia, replacing Ether or Anesthol or Ethylene.

You all know Nitrous-Oxide-Oxygen-Ether combination is a lovely anaesthetic. It gives you all the relaxation you require to do successful surgery, but the reason the Exodontist cannot employ it is because it has a tendency to make patients nauseated in nearly all cases.

Secondly: Ether has many sequelae in nephritics, T. B. Patients, anaemics, etc. In other words, many patients have after effects which are altogether unpleasant or undesirable.

Now Anesthol is a preparation which corresponds to Ether, containing Ether, Chloroform and Ethylchloride in such proportions that it acts as knockout drops for the patient who is hard to anaesthetize. I believe to administer it successfully you must with caution give it under low pressure. It requires ten to twenty minutes of routine technique to put a patient to sleep; that is too slow, allows too much time for anaesthetic absorption, has the same chemical properties almost as the drugs individually, but the post-anaesthetic effects are somewhat less severe than the individual action of the drugs, as the quantity required is much less and yet the patient feels drowsy or half nauseated in many cases—I would say in almost thirty per cent. of cases. The remaining seventy per cent. require from two to six minutes longer to recuperate in the chair and then fifteen minutes longer out of the chair. I do not mean every case. but generally speaking.

Now I do not know anything about Ethylene except observations I have made from other men's technique in its use. At present I do not believe a standardized technique in Ethylene anaesthesia has been adopted.

I know of men who are boosters, and also of men who are knockers; let us wait for a year before forming an opinion, and yet I believe some day it will find a place in anaesthesia.

What I can speak of with experience from my own practice is that by the addition of Somnoform used in a special apparatus attached to my gas machine, I have been able to handle the difficult case, where with Nitrous-Oxide-Oxygen secondary saturation would be required before successful anaesthesia could be maintained. Secondary saturation, as advocated by Dr. McKesson, does give desirable relaxation, but requires the individual attention of the anaesthetist at all times, because of the depth of the anaesthesia, and while I have the deepest regard personally for Dr. McKesson, and can speak with admiration of his technique, I doubt if many Exodontists care to follow the technique, because the Exodontist, as a rule, has charge of the anaesthetic as well as the operation. In order to watch both, the Exodontist does not wish to carry his patient to the same depth of anaesthesia before getting relaxation. *Remember,* please, that I do not advocate the use of Somnoform as synergism in routine technique, but only for the difficult case—the type of individual who is hard to anaesthetize—the athletic, plethoric, alcoholic, drug addict, who requires a fairly longer anaesthetic than a simple extraction. I have used this technique of combined agents in six hundred and forty cases, over a period of two years. Even a special apparatus such as I have attached to my anaesthesia apparatus is entirely unnecessary, but very convenient. Any special knowledge additional to the knowledge required of good Nitrous-Oxide-Oxygen anaesthesia, and also a knowledge of Somnoform anaesthesia, is not required. Any man who can successfully anaesthetize patients with those agents separately can do better anaesthesia by using them combined. I have in some cases used secondary saturation with success and have no bad after effects, but attending physicians are always alarmed at cyanosis, and so are many dentists and many anaesthetists. Nitrous-Oxide cyanosis is not as dangerous as many believe, but by the employment of the above technique, cyanosis is absent; a more tranquil narcosis is possible; relaxation follows, and as a result more successful surgery is accomplished, as there is no occasion to hurry or leave unfinished work that should be done. It is a nice feeling of confidence to approach a patient who looks hard to anaesthetize and know that you are almost sure to have good anaesthesia, if not immediately at the start, at least sixty-two seconds after breaking your Somnoform capsule or capsules. If you do not believe this, the next time a difficult case presents itself, and you are using straight nitrous oxide-oxygen $N_2O$-O, take off your nasal inhaler and give Somnoform with a Stark inhaler until your patient is asleep and then quickly revert to $N_2O$-O and continue your anaesthetic and operation. The chances are you will be pleasantly surprised at the result. If you cannot carry your patient all through the anaesthesia, if it is a fairly long one (meaning ten to twenty minutes) repeat the procedure, if necessary. This is a little inconvenient, as it means changing apparatus, and the change means air inhalation and the crowding of anaesthetic vapor immediately after changing apparatus, so that your patient does not come out of the anaesthetic entirely, but even at that it has to my mind a decided advantage over straight $N_2O$-O in some cases. When my attachment is made to the Nitrous-Oxide machine, it means more constant absorption of Somnoform in small quantities, as quantities are controllable; it eliminates ingress of air, and makes a smoother anaesthesia.

My records of all these cases are unfortunately incomplete, but that cannot be helped, since in a hospital the patient is often retained for days and any post-anaesthetic effects can be closely checked up, but in an Exodontist's office after the patients claim they feel normal, or nearly so, they are allowed to go home, and the following days' history is not always obtainable; but from the records I have got, while the patient remained in the office, our records are truthful in so far as our observations are recorded, and as such must be accepted for what they are worth.

I have had complete nausea in four per cent. of cases, followed by headache of short duration, from one-half to three hours; I have had partial nausea,—by this I mean a nauseated feeling but not followed by nausea or actual vomiting or headache—in nine per cent. of cases. Remember, these patients had anaesthesias lasting from 6 to 25 minutes; not all had previously been prepared, or abstained from food, as many patients or their dentist or physician demand their teeth out immediately. Drowsiness lasts from two to sixteen minutes longer than straight Nitrous-Oxide-Oxygen in about ten per cent. of cases, and all other cases show no more, or different, after effects than straight $N_2O$-O. This can be somewhat lessened, but was purposely not done, for retaining data. How can it be lessened? By the forcing of direct oxygen at the completion of the anaesthetic, and washing out the lungs from the anaesthetic. In nearly all cases where it seems necessary this technique should be followed. *Do not* force it too fast at the start or your patient becomes unduly excited, due to oxygen stimulation, and the cycles of the circulation do not get the same chance for the oxyhaemoglobin to carry oxygen into the tissues; but as the patient is almost awake then force oxygen into the lungs under pressure. I have had many a grateful patient shake hands with me and thank me for the nice anaesthetic they have had in my office, and relate some history of a wild time they previously had, either with straight $N_2O$-O or Ether or some other anaesthetic. I do not intend to impress you that I am complimenting myself, but merely to inform you of the success attending this technique. And there is not a person who cannot get these results if he understands anaesthesia. As yet I am not married to this technique; by that I mean if I can find something still superior to this technique I shall employ it, but first of all I must be convinced of its merits.

Too many anaesthetists always keep the same old technique for all patients, and that is why the science of anaesthesia is not making faster progress, but progress in humanity in any branch or subdivision is slow, and anaesthesia is perhaps making greater strides lately than any other subdivision in medicine or dentistry. Then again, all lines of activity have men engaged in those lines who are faddists and are always chasing rainbows or new methods, or devices; these are more or less dangerous too. What I am telling you is nothing fancy; it is no abnormal stunt or passing fancy; it is a plain fact or truth that will bear investigation, and keep you, as well as your patient, from standing on your head when in the act of removing teeth. I have witnessed, as well as heard of, many funny positions that the patient and dentist assumed during the removal of teeth from an obstreperous patient under Gas-Oxygen Anaesthesia. This technique with premedications does away with an obstreperous patient; this technique without preliminary medication is a wonderful advance upon some of the methods employed in this present generation.

To my mind rigidity under Gas-Oxygen is a bad handicap, because the muscles of mastication become so rigid that successful surgery in these

cases is very difficult. *First*: Because it is hard to properly open the mouth even with a gag, and this means lack of room, or field of operation too small; *Secondly*: rigidity means muscular symptoms of insufficient anaesthesia, but other symptoms such as respiratory or cardiac symptoms in some cases might caution us to deepen the anaesthesia with safety, providing we are using Nitrous-Oxide-Oxygen. In most of the above mentioned cases very little oxygen is tolerated at all. (I mean the athletic, plethoric, alcoholic or drug addict). The addition of Somnoform after the mucous membranes of the respiratory passages have become anaesthetized so that no odor is detectable by the patient, does away with this rigidity and allows after sixty seconds or less of absorption the immediate use of oxygen (from seven to ten per cent. or more) keeping the patient nice and pink all the time. If you feel your narcosis is about right give only seven per cent. oxygen; here is where you must understand anaesthesia; if your narcosis is a little deeper than you anticipated, use the direct flow of oxygen straight into your bag, and make the first breath a real oxygen mixture.

I never get scared, and my patients probably don't either. That is due to confidence. You must know something about the patient and have mastered the essential knowledge that goes with good anaesthesia, and you are well away to a good start on a pleasant and successful adventure.

When giving an anaesthetic with closed apparatus, with Somnoform, remember your patient must have oxygen, and will tolerate oxygen and stay asleep. How much depends upon the dosage of gases. How much oxygen depends upon your patient. How soon? Oxygen? Immediately your patient has gone to sleep. How delivered? That depends upon the depth of anaesthesia—either by direct flow or regulation of percentages. Perhaps you had better use the direct flow to fill up your rebreathing bag with oxygen. By that I do not know how much nitrous oxide is in the rebreathing bag,—how much oxygen you will require to get a certain percentage. How much does your patient need? How much knowledge have you got?

### Difficult Cases

Let me point out this fact in using a combination. Supposing you start to use $N_2O$ pure, and your patient has taken a large quantity and you are afraid of further dosage, although your patient seems awake, or nearly so, and has symptoms of cyanosis. These are cases where I implore you to use straight Somnoform on them until they are asleep, since you do not own such a device as I had ordered and made specially. Now when you have obtained a good narcosis with 5 cc. of Somnoform, switch quickly to your nitrous-oxide machine and immediately give about 10% oxygen until symptoms tell you to reduce or increase the oxygen. If an increase is indicated, use direct flow into your bag. If you have used 10 cc. of Somnoform, allow patient to breathe air and start to operate. Now you will have a few minutes—2 to 5 minutes anaesthesia anyway, with such a dosage. Allow the patient to breathe as much air as you think he requires, then, without allowing the patient to wake up, switch back to your nitrous-oxide machine again and give as if you had never used Somnoform at all. Just the same technique as $N_2O$ plus O. You will notice the difference between switching back quickly, etc., depends on the dosage and depth of narcosis. What have you got now? You have a patient *safely* asleep; not too deeply anaesthetized; no cyanosis; and a relaxed patient. Perhaps he is snoring heavily and perspiring freely, but not a dangerously deep anaesthesia. The

after effects are never serious in my experience. I find that most cases feel actually better after such a dosage than with secondary saturation prolonged.

*Oxygen* is our safeguard to life, and when we are approaching muscular relaxation and surgical anaesthesia with straight nitrous oxide (in such difficult cases which require large dosages) without the use of oxygen, we are approaching a stage of asphyxiation which is dangerously near the fourth stage of anaesthesia. Now in these difficult cases the patients will not tolerate oxygen, so that we have to use the straight nitrous oxide or add agents which will allow us to use oxygen.

The plethoric-athletic type is the difficult refined patient, often, and he demands an anaesthetic which will not make him sick like ether. What are you doing for him?

Many alcoholics you can handle by having them load up with their own joy-water, and when they arrive with their nerve all alcoholized they make good patients for block anaesthesia. All you need is a bit of psychology, or mental science, to keep the patient good natured, and he will allow you to remove the teeth or bone, etc. Many alcoholics who demand to go to sleep, who look like difficult cases or anaesthetic risks, can be induced to take local or block anaesthesia. However, if local conditions indicate a general anaesthesia, I do get beautiful anaesthesia sometimes with $N_2O$ and O, and co-operation of the patient. If I don't, I add Somnoform and put them to sleep; then I have very little trouble.

### Straight Nitrous-Oxide-Oxygen Anaesthesia

Failure to induce anaesthesia may generally result from lack of knowledge, underdosage. There are three stages of anaesthesia. The third stage is surgical anaesthesia, and this again is subdivided into three planes; with some patients operations can be successfully carried out in the second plane of the third state of anaesthesia; in others, where secondary saturation is an essential, the third plane of anaesthesia must be reached. Then oxygenation of the patient by direct flow is directed to keep the patient alive, and also to keep them from passing into fourth stage, which is usually next door to death. So the anaesthetist must understand his apparatus, his anaesthesia and his patient.

The common cause of complaint lies here—lack of knowledge Knowledge is obtained by experience under proper instructors. The path of danger lies somewhat ahead of us if we do not quickly observe these symptoms, as the action of the drug we use is so rapid. Do not misunderstand me, Nitrous-Oxide-Oxygen, from a chemical standpoint, is considered the least dangerous of all anaesthetics; but from a clinical standpoint is more rapid in absorption than ether or chloroform and hence must be thoroughly understood.

Let us first consider the apparatus. The Heidbrink, McKesson & Clark machines are all high pressure machines, while the Gwathmey, Forreger, Ecker, and Connell machines are low pressure machines; each manufacturer to-day claims a superiority for his product, and I am not in a position to recommend any one to the exclusion of all others.

For convenience of administration I am partial to high pressure apparatus, because the induction period is about a quarter the time of the low pressure machines, and a nervous patient who has perhaps not received preliminary medication is more easily controlled.

The weakness of human nature always waits for miracles to happen. We get tired of routine which is ordinary; we always look for methods which are singular or spectacular. The normal man leads a normal life; the planets revolve in the normal plane. By this I mean, the common way of things is after all the best. It is the superior arrangement of the universe, and so the miracles are abnormal, compensate for abnormality; and so if you have a normal patient, then uncommon methods need not be resorted to in giving anaesthetics.

The patient quickly follows instructions, breathes normally through the nose, does not take long deep breaths, tell them this is an ordinary sleep. Don't instruct them to take a deep breath, unless they have particularly shallow breathing; ordinarily, tell them to breathe naturally, then if excitement or fear prevents them from doing this, and they do abnormal stunts, try and make them act naturally, in the quiet of your own office this is easier accomplished than elsewhere.

The A.B.C.'s of anaesthesia should be in the anaesthetist's brain. He should co-ordinate the normal points of symptomatology of anaesthesia, divided under the headings of different individuals, *children* and *adults*, men and women, anaemics and plethorics, normal and abnormal individuals.

We must first learn the primary processes of mathematics, and so we must master the primary needs of normal anaesthesia. *Next*, we should understand the chemical and therapeutic actions of the agents or drugs we administer; and next, we should be thoroughly acquainted with the apparatus we are working with.

Children are harder to anaesthetize than adults because of fear, and lack of co-operation. Crying produces mouth breathing; mouth breathing means inhalation of air; air means 79% Nitrogen which fills up space and makes for uneven anaesthetic mixture during induction period, which might cause a pushing of anaesthetic vapor, under pressure, which could overdose the young patient.

I would rather give Somnoform with a face inhaler for any struggling scared child. Important point to remember: children should not be forced under gas pressure. This is apt to produce anaesthetic shock. Children are susceptible to anaesthetic shock when closed apparatus is used, and too much pressure used.

I would, in normal cases, *suggest* something pleasant and keep the child's mind on something else; a bunny story, or a child's motion picture, or dolls, etc. I would ask the child questions to make him talk, and I would lead his conversation into channels upon which he was interested, every once in a while reverting to instruction of the anaesthetic; finally when I would apply the inhaler I would ask for his co-operation.

Induction Period.—Child should not receive over 2½ or 3 gals. per minute with 5 to 7% oxygen, for a few minutes, then reduce oxygen until anaesthetized, and when completely asleep give as much oxygen as required. That technique of giving oxygen at the start of the anaesthetic does away with jactitation in about 75% of cases, which is so common under Nitrous-Oxide-Oxygen anaesthesia.

Chair Adjustment.—Have the chair almost horizontal—this prevents slipping out of the chair—with the arms of the chair adjusted close in just before operating. If at all possible do not allow parents to remain in the operating room. Try to convince them that you are carefully guarding the welfare of the child, and have them leave the surgery.

Crying, under Nitrous-Oxide, does not necessarily mean that the child feels any pain. This does happen occasionally, and the child may not feel anything or even remember the fact that he was crying.

For children have the expiratory valves wide open, so as to wash the lungs with the proper amount of anaesthetic and reduce the pressure. Most anaesthetists wish to add a small quantity of ether in children to allow for relaxation, then shut off the ether and increase the oxygen, keeping the color good at all times.

Shock in Children. — All scientists agree that children are more susceptible to shock than adults.

Preliminary medication and mental suggestion may be necessary in some patients. Anaesthetic shock may be produced in three ways:

(1) By giving an overdosage.

(2) By giving too light an anaesthetic (under dosage).

(3) By failing to keep an open airway.

Corrections.—For overdosage—force direct oxygen.

Underdosage—shut off oxygen. Keep airway open by pulling mandible forward, pulling tongue forward with tongue depressor or Connell airway. Use packs with a strong string attached, so that no throat packs are inspirated into airway. Packs prevent foreign particles or blood from falling into the throat, or being drawn into throat by inspiration. The space between the external orifices and the epiglottis has been called the "death space" because this space causes more trouble to anaesthetists than all other troubles combined.

Shock and death are more often caused by a closed airway than almost in any other way. This is caused by swelling of the mucous membranes, also by the relaxation of the muscles of the tongue, and the tongue dropping back and closing of the glottis.

Tongue Stertor may be often prevented by having the head placed sideways, either to the right or left side. The patient's head should be supported so that no effort is thrown on the neck muscles. (Chair adjusted by raising back).

Try and Remember This.—Artificial airways are a very necessary part of an anaesthetist's equipment—Hewitt's, Connell's, Fergusson's, etc. If the forcing of the Oxygen under pressure should not revive the patient, a child should be quickly inverted, grabbed by the heels and held upside down; swing gently back and forth and have assistant slap the patient on the back, also massage abdominal muscles, which spreads the circulation. In shock the abdominal viscera have a loss of internal abdominal pressure. Now the viscera are capable of holding nine times the whole quantity of blood in the body, and so it is necessary to distribute that back to the heart and brain, etc.

Inversion supplies the brain with blood, but this is no good unless you have an open airway. Inversion spreads the circulation from the abdominal viscera back to the heart.

Inversion plus swinging mechanically expands and contracts the chest like a bellows: this allows air to rush into lungs. It also distends the heart and intercranial vessels.

If the patient happens to be an adult, stand up on the dental chair and grab by the knees instead of the heels. This should be kept up for at least six minutes, and done as vigorously as possible.

Hypodermics of camphor and oil, or strychnine sulphate in "Greeley's units" may also be aids.

*Lastly*: The stretching of the sphincter ani muscles might be resorted to, if necessary. First respiratory movements would perhaps be so shallow as not to be noticeable, but they would soon become spontaneous, and natural breathing follows. Giving of enema (warm water—saline preferred) raises the blood pressure. Bandaging the abdomen fairly tightly, but not so as to interfere with free respiratory movements, also raises the blood pressure.

Trauma under tooth extraction is a negligible quantity.

Adults Technique.—All I have said about suggestion and mental equilibrium is also applicable to the adult. The great trouble here is insufficient anaesthetic. Give 4 or 5 gals. Nitrous-Oxide for about one minute, without oxygen. Addition—then add 7% oxygen until patient is asleep. Then add 7% oxygen, or as much as required.

Anaemic Patients tolerate more oxygen than normal patients.

Plethorics require little or no oxygen until they are asleep.

*Important* above all things is to have a nasal inhaler adjusted or packed so as to exclude all air and have it non-leaking.

Next of Importance.—The expiratory valve—in cases of deep breathing and patients normal. Patients of an athletic type—the expiratory valve is nearly closed so as to increase the pressure, and produce greater rebreathing, giving a more concentrated Nitrous-Oxide mixture, and the lungs are not emptied of too much carbon dioxide, which produces a condition of "acapnia."

However too much and too long rebreathing results in post-operative discomfort and headache, and it also raises the blood pressure distinctly at the beginning of the operation. If a patient has an already high blood pressure this must be watched. In cases of arteriosclerosis the blood pressure drops considerably when the expiratory valve is raised after a three-minute concentration has been carried out. Then flush the patient with oxygen only for a moment and reduce the pressure, and then regulate the amount of oxygen necessary to keep the patient asleep.

Cyanosis.—This blue condition of the patient is what scares most anaesthetics. However, Nitrous-Oxide cyanosis is not as dangerous as Ether or Chloroform cyanosis, but most physicians do not recognize this, and for this reason alone are not favorable to the use of Nitrous-Oxide. I have seen patients cyanosed for two hours under Nitrous-Oxide without any post-operative effects. However, cyanosis is an index to the depth of anaesthesia and must not be sneered at. See that the airway is cleared; it might mean an obstructed airway; determine whether the patient has labored or stertorous respiration. I am more alarmed at a deathlike pallor than cyanosis, as this is followed by respiratory paralysis if carried too far. Death-like pallor means a drop in the blood pressure; quickly withdraw the Nitrous-Oxide and give sufficient oxygen to get your patient back to normal without waking the patient up altogether; then re-anaesthetize them, and if I am not mistaken pressures can be kept low, air valve (expiratory valve) can be kept fairly high, rate of flow can be reduced to three or four gals. per minute, and oxygen percentage raised. If necessary add a little Ether or Somnoform. However, if cyanosis is the bugbear to keep you from using it, and you demand a pink patient with the addition of oxygen at all times, add Somnoform as I will demonstrate the addition of Somnoform in my clinic. This synergist can be almost completely washed out of the patient's lungs by direct oxygen flow at the completion of the anaesthetic.

Pressure in rebreathing bag is important. Most people do not emphasize this point; but it should at all times be taut or expanded during expiration

and it should not be entirely emptied during inspiration. McKesson & Clark have bags that can be regulated and hence are an improvement over the others where this is not obtainable.

McKesson points out the largest percentage of $CO_2$ from expired gases is the least part of the expired gases.

Gwathmey says the pressure in the rebreathing bag should be so regulated that the pressure under the mask does not exceed 2 mm. of mercury.

Mucus in Throat and Mouth.—This is usually most noticeable under Ether anaesthesia, but it is also noticed under Nitrous-Oxide, and the mucus should be wiped out by the use of gauze and artery forceps. It is usually noticeable under light anaesthesia, and as the anaesthetic becomes deeper it disappears.

Sweat glands usually become quite active during presence of cyanosis or deep anaesthesia, which is of the cold perspiration type, and this subsides with lighter anaesthesia and more Oxygen addition.

*Warmed* agents reduce the quantity of saliva and mucus, and also eliminate excitement to some extent.

Laboratory experiments showed that animals killed by warm agents did not have convulsions before death, and cold anaesthetics caused convulsions and death in 12 to 28 minutes sooner than warmer anaesthetics.

Reflexes: Corneal.
Respiratory.
Circulatory and Nervous system.

In the third stage of surgical anaesthesia under Nitrous-Oxide, when pulse is full and regular, breathing is automatic and regular. The lid and Corneal reflexes are abolished; the pupils are usually dilated and the eyeball is fixed, slightly rolled upward and inward, and the pupil slightly dilated. Once in a while we meet a patient where the muscles are not relaxed, the eyeball slightly rolls and the pupils are not enlarged, but judgment of the regularity and depth of the breathing is the surest guide to the anaesthetist The size of the pupils may vary with the preliminary medication .

Reflexes.—The sequence in which the parts of the nervous system are involved according to physiologists and anaesthetists (both American and English investigators) are in the following order:

(1) The cerebral cortex is involved;
(2) The cerebellum and basic ganglia;
(3) The sensory centres of the spinal cord;
(4) Cerebro-spinal motor tracts;
(5) The respiratory and vasomotor;
(6) The cardiac centres.
(See here that respiration precedes circulation, and it is more important to watch the respiration than the circulation.)
(7) The inhibition of all centres, and death follows.

With Nitrous-Oxide the special senses are abolished in the following manner: sight is lost before hearing, and taste persists longer than either of these. Hearing is the first to reappear, and silence should be maintained before the patient goes to sleep and during the waking stage—loud noises tend to excite the patient. Some patients have died after a few inhalations of chloroform at the beginning of an anaesthetic, before consciousness was lost (probably psychic in origin), and here is where preliminary medication is valuable in these neurotic patients. Circulatory reflexes are observed during a rapid rise or fall in blood pressure. Respiratory reflexes are

noticeable, such as coughing, reaching and difficult breathing, and likely to occur in lighter anaesthesia; a few words kindly spoken, reassuring and instructing the patient, are here indicated.

Men are harder to anaesthetize than women, because they smoke and drink more. More men are addicted to drugs than women; athletes are harder to anaesthetize; outdoor workers are harder to anaesthetize than sedentary workers, and most women have sedentary occupations.

Men are not so susceptible to suggestion, become more easily excited, because they have more hazardous occupations. They weigh more, have more avoirdupois and require more anaesthetic than a smaller person; are more often plethoric or full-blooded than women. The athlete, alcoholic and drug addict, all should have preliminary medication, viz.: Chloretone 5-15 grains ½ to 1 hour before, morphia 1/6 grain ½ hour before.

### Treatment Before Operation

(1) Premedication—Chloretone or Morphia.
(2) Lack of food—miss one meal.
(3) Elimination of bowels—(enema)
(4) For bleeders—give 80-150 grains Calcium Lactate in 10 grain doses over a period of 2 or 3 days before operation.
(5) If the above is impossible, inject 2 cc. of P. & D. Haemostatic Serum intramuscularly—one hour before operation.
(6) Corsets and waistbands *must* be loosened.
(7) The bladder should be emptied.
(8) A capable nurse can often mentally reassure the patient that all will be well with the patient, and do much to assist the operator.
(9) In a given history of acidosis give $NaHCO_3$, ½ teaspoonful in wine glass of water 3 times a day before meals on day previous.
(10) In a given history of kidney involvement, consultation with the physician is important, and too many teeth should not be removed at one sitting.
(11) In goitre cases preliminary medication is advisable; a Connell airway should be on hand during operation, and stomach and bowels *should be empty*. Airway is introduced before closure of the normal takes place. There is a danger here of regurgitated food blocking the airway. Free administration of drinking water day before is of assistance.

### Fear an Important Factor

Animal experiments show where animals were frightened and not hurt, that they exhibited brain cell changes, some were damaged; rapid heart, accelerated respirations, prostrations and tremors, as well as a rise in temperature. This shows a form of physical exhaustion due to fear; patients exhibit similar tendencies.

After taking morphia patient should lie down and rest for half an hour. It lessens the amount of anaesthetic, reduces vomiting, reduces liability to shock, and eases post-operative pain. Contra-indications of morphia only in acute or subacute nephritis, where the reflexes are not to be abolished and there is danger of coma. These patients are rare in a dental office.

### Treatment During Anaesthesia

(1) Have chair in reclining position, keeping the head in line with the heart.
(2) Keep respiration normal, if possible, by Oxygen regulation.

(3) Keep open airway.
(4) Have gauze packs in mouth, which somewhat prevents mouth breathing.

False Breathing.—Sounds of respirations indicate narcosis, but other reflexes are not abolished; check up and do not start to operate, as it will produce excitement and uneven anaesthesia. Muscular twitching or jactitation is a sure sign of too deep a narcosis—add more Oxygen.

Have gas warmed by electric warmer, or hot water bag placed over machine. Respiration aids the heart in producing blood pressure in the human subject; intra-pulmonary pressure is increased during exhalation, aiding the heart to force the blood out of the chest; during inhalation the blood is drawn out of the veins leading into the thorax, at the same time the capillary resistance in the lungs is reduced so the right heart can more easily force the blood to the left side; when exhalation begins the lungs squeeze out the excess blood into the left heart, increase intra-pulmonary pressure by 5-10 mm. mercury.

Briefly, the heart is the pump, the arteries admit the blood from the heart by distention. The arterioles are shut-off valves controlling peripheral resistance and determine the volume of blood to pass through a certain group of capillaries; the capillaries and veins act as a return tube to the heart and lungs.

Post Operative Treatment

(1) Do not raise the patient too quickly.
(2) Do not allow patient to swallow blood; insert gauze or cotton.
(3) Allow patient to rest quietly on a couch if necessary.
(4) If patient still feels nauseated after 15 minutes, administer Bromo-Seltzer, 1 teaspoonful in small glass of water for ordinary cases.
(5) If patient feels chilly, cover with warm blanket or robe.

Pregnancy is not a contra-indication for administration of $N_2O$.

Dangers of abortion are greatest at the beginning of the third and seventh month—not much danger if the muscles of the uterus are not allowed to contract and the patient is not allowed to become cyanosed. Most patients tolerate a larger quantity of Oxygen at this period.

Alcoholics.—With one ounce of whiskey in 8 ozs. of saline, per rectum, given one hour before, plus 1/6 grain of morphia one-half hour before, the anaesthetic acts more satisfactorily. Ether by drop method is better than a closed method, as these patients suffer from Oxygen deprivation.

Pleurisy and Empyema—abscess of the lung—use $N_2O$ and Oxygen (never use Ether)—plus morphia 1/6 grain, or chloretone—one hour before.

# The Third Annual Convention of Dental Nurses

The third annual convention of the dental nurses was held on May 26, 27, and 28, 1925, in the University College. Registration took place in the Main Rotunda, University College, on May 26th, from 4 to 5.30 p.m., and on May 27th from 9 to 10 a.m. Lectures were given in Room 37, University College.

MAY 27—10 a.m.—Dr. F. J. Conboy, Director of Dental Services, Ontario.

11 a.m.—Dr. J. W. Hunt, Clinical Specialist, Department of Health, gave a most interesting and illuminating address on "Communicable Diseases re Lesions of the Mouth."

1 p.m.—The Dental Nurses were tendered a luncheon by the National Refining Company of Toronto, in the Music Room of Hart House, and Mr. William McTavish presided. Miss Detwiler and Mr. Frank Oldfield rendered several very delightful vocal selections. The speaker on this occasion was Captain A. D. Robb, a man of sparkling personality and one whom many of us have grateful memories of his undying services overseas.

His theme was: "What Conceptions Young People Have To-day of Life." The first conception is that life is a great playground; all the world is a great theatre; and everything in it a great spectacle for our amusement. Then from babyhood we emerge with the idea that life is something more than a playground—we visualize it as a school, the world a place for conquest, for ideals, no longer a playground, but "I" the centre around which the world revolves, and we fancy we are going to sail through life without any difficulties. Alas, how quickly disillusionment comes.

Life is a tremendous game to be played as a sportsman plays it. Then we begin to discover the real reason of life and the real training of life. As we get older life is not a theatre to us, not merely a playground, nor yet a game, but like a school where we learn by system or note. If we look at life as a theatre or playground or something to amuse us, then we will go through life unhappy, disgruntled and discontented, but if we look at life as being full of tremendous possibilities we will discover then the worthwhileness of life. When some one passes on we will not say he made so much money, but that he did so many things for the advancement of society, for the advancement of science, or for the advancement of the human race. Life is not worth very much at all unless it represents some sort of service which makes for the happiness of the home and the advancement of the human race. Captain Robb concluded his remarks with that very apt quotation:

> Isn't it strange that Princes and Kings
> And Clowns that caper in sawdust rings
> And common folk like you and me
> Are builders for Eternity.
>
> To each is given a bag of tools
> A shapeless mass and a set of tools
> And each must fashion ere life is flown
> A stumbling block or a stepping stone.

A vote of thanks to Mr. McTavish, Miss Detwiler, Mr. Frank Oldfield and Captain Robb was moved by Dorothy McEnaney, and seconded by Miss Rose.

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## *COMMUNICABLE DISEASE LESIONS OF THE MOUTH AND THROAT*

J. W. Hunt, M.D., Clinical Specialist, Department Public Health, Ontario

I have been asked by the director of Dental Services to talk to you this morning on the communicable disease lesions of the mouth and throat, which you are likely to come in contact with while practicing your profession.

In discussing a question of this kind cognizance must be taken of those conditions which might be termed non-communicable as, from the standpoint of differential diagnosis, they very often so closely resemble those which are communicable that diagnosis is exceedingly difficult.

What then are the commoner conditions, communicable and otherwise, that the clinician might find as he examines the buccal pharyngeal cavities? For purposes of discussion they might very well fall under two headings, namely, those that are acute or febrile and those that are chronic or non-febrile.

The following is a list of these conditions or lesions, as classified under the above headings:

*Febrile*
Diphtheria
Scarlet Fever
Measles
Smallpox
Acute Follicular Tonsilitis
Acute Strep. Infection
Vincents Angina
*Non-Febrile*
Simple Ulcer
Syphilis
Tuberculosis
Epithelioma
Leuco-plakia

It is not the purpose of this paper to refer at any length to the differential diagnosis between any of the above diseases. This is primarily a matter for the physician and surgeon. Rather is it the intention to but mention them, with a brief description of the same.

I. *The Acute-Febrile Diseases.*

The clinical manifestation of these diseases are more or less familiar to all present, and one might safely venture the suggestion that you are not at all likely to come in contact with many of them. When a case of diphtheria has progressed to the point of showing a membrane on the throat, or a case of scarlet-fever a generalized rash, or a smallpox patient pustules in the mouth, he is too ill to be found in a dental surgeon's chair. There are, however, mild cases of these pyrexias, where the toxaemia is

slight and the constitutional disturbance not at all severe, which might find their way into the surgery and whom you would be called upon to examine for some dental abnormality.

The predominant physical sign of diphtheria in the throat is the heavy greyish membrane which may appear as an isolated patch in one or both tonsils, or be so extensive as to cover both tonsils, the soft palate, and even extend up into the posterior naris. This latter is only found in the severe type of the disease. The membrane is firmly adherent to the tissues and upon being forcibly detached leaves a bleeding surface.

One of the diagnostic features in scarlet fever which may be of interest to you, besides the infection of the mucous membrane, is the so-called "Strawberry tongue." This is a condition where the papillae of the tongue becomes enlarged and on an already infected surface gives the appearance of a ripe strawberry.

In measles we have what are known as "Kepliks Spots." These are spots or papules sometimes slightly bluish in color which appear in the mucous membrane inside the cheek. These when present, are pathognomonic of measles, and a diagnosis can be made even when other signs or symptoms are absent.

Smallpox. The vesicles and pustules of this disease sometimes appear in the mouth. When this happens, however, the case is a clear-cut one and the rash pretty well generalized.

Most of us at one time or other have had a close acquaintance with acute Follicular Tonsilitis, a condition where the follicles of the acutely inflamed tonsil throw out a white secretion which appears as white spots on the surface. Sometimes these spots coalesce and a false membrane is produced which may give rise to a suspicion of diphtheria.

This secretion is easily rubbed off, however, the condition clears up under suitable medical treatment. Tonsils that are chronically enlarged often show a few of these spots on the surface.

A case with acute streptococcal inflammation of the throat will be found in a hospital rather than a dental surgery. The infection is severe and the toxaemia great. You will not meet with these cases in the routine of dental practice.

Vincents Angina—This is an affection of the tonsils and pharynx, the ulcer-membraneous character of which resemble diphtheria and sometimes the mucous patches of syphilis. It was discovered by Dr. Vincent and occurs in anaemic and otherwise debilitated subjects.

*II. Non-Febrile.*

Under this heading easily the most important and most dangerous, from the standpoint of infection, to the dental examiner whether surgeon or nurse, stands syphilis. Syphilis is usually described as occurring in three stages: Primary, secondary, and tertiary, and lesions of all three stages may be found in the mouth and throat. The advent of the primary or first stage of the disease is heralded by the appearance of the chancre. This first starts as a papule or pimple, the surface of which soon gets rubbed off, secondary infection sets in and we soon have the characteristic ulcer. This in its typical form may be about the size of a five cent piece, becomes very hard, and when felt feels like a piece of cartilage in the skin. What is of particular interest to your profession is that chancres may be found on the lip, tongue or tonsil. They are highly infectious, and the examiner may very well become infected with the disease unless the utmost precaution is taken.

The outstanding manifestations of the second stage occurring in the mouth is what is called the mucous patch. This is a bluish-white or grey spot, more or less circular in outline, appearing in the mucous membrane of the lips, tongue, and sometimes the pharynx. If the case is allowed to go unattended these spots become ulcerated, and then we have a more or less extensive ulceration appearing anywhere in the buccal mucous membrane. The mucous patch is also highly infectious, and is fraught with danger to the individual who attempts to treat or examine a mouth in which it is present. And just here let me refer to one cardinal principle. Always look with suspicion on any ulcer occurring in the mouth, and never examine or treat a patient without wearing rubber gloves.

The lesions of the third stage of syphilis appearing in the mouth usually affect the tongue, though we may have ulcerations in the tonsil, pharynx, and palate. The tongue may be affected in one of two ways. Either a localized, sharply defined ulceration called a gumma, or a generalized enlargement and malformation called syphilis glossitis. The lesions of the third stage are not as infectious as those in the primary and secondary stages.

Before leaving syphilis there is one other condition to which I would like to refer, and that is "Hutchinson teeth." This is a result of hereditary syphilis and consists of a notching of the upper central incisors, though other teeth may be affected as well. The condition usually disappears after about the thirtieth year owing to the edge of the teeth being worn away.

Cancer and tuberculosis also cause ulcerating conditions in the mouth particularly of the tongue, and these may bear a close resemblance to the gummatous conditions referred to above. Rapidity of growth, however, is one very strong diagnostic feature, for syphilis will do in weeks what would take cancerous or tuberculous growths months, or even years, to accomplish in the way of destruction of tissues.

Leucoplakia—This is sometimes described as psoriasis of the mouth. The lesion consists of the formation of greyish-white patches on the inner side of the cheek and lip, and on the tongue. It sometimes goes on to point of extensive ulceration. It is supposed to be syphilic in origin.

A simple ulcer is sometimes met with anywhere on the mucous membrane of the mouth, usually opposite an irritating tooth. It is due to traumitism or injury and heals under simple remedies once the cause is removed.

This is but a brief review, but it may help you to a certain extent at least to become more familiar with most of the lesions you are at all likely to meet with in the practice of your specialty.

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## *THE USE OF THE TOOTH BRUSH*

Dr. Paul R. Stillman, New York City.

(Dr. Stillman's address was broadcasted that same evening)

Few people who make daily use of the toothbrush have the right conception of its purpose. The primary aim should always be for health. Health and cleanliness are not synonymous, although health of the mouth is always assured when it is clean. But on the other hand, it does not follow that bathing or cleansing the surfaces of the body will insure health. Health of the body, and this is equally true of the oral cavity, requires more than cleanliness.

Most people use the toothbrush for the primary purpose of cleaning, hoping thereby to produce a whitening of their teeth. They usually employ the tooth brush as a scrubbing brush, which defeats the very object of their purpose. What the teeth need is cleanliness, exercise and function, in order to keep their natural beauty. This latter, viz., function, is the key of dental health, rather than cleanliness. Cleanliness without function is as futile as a means of keeping the teeth healthy as bathing without exercise is for the body.

In order to have the tooth brush produce the results desired the manner of its use must produce an effect which is analogous to that of function. The function of the teeth is largely mastication. And, it is evident that Nature's intention is that teeth should be practically self-cleansing through their normal use. The old idea had been to scrub the teeth only. The new plan is to produce in the teeth and gums an adequate stimulation of the blood supply, and thus assist those natural tendencies with which Nature has provided for the maintenance of health.

To use a tooth brush as a scrubbing brush is used, or as a whisk broom is used, amounts to little more as a health producing measure than to make a gesture in the general direction of the head. It is in the first place inadequate, but what is more serious, such technique really produces an irritation to the gingiva. And, we all know that continued irritation, no matter how slight, results in serious effects if continued as a habit.

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## *PREVENTIVE DENTISTRY*

HARRY S. THOMSON, D.D.S., FIELD SECRETARY, CANADIAN DENTAL HYGIENE COUNCIL.

Dr. Thomson prefaced his remarks with a few observations which he made while visiting dental offices on his trips from coast to coast, and he mentioned that one or two outstanding things he had noticed was the fact that dental nurses so often reflected the mood of the dentist, when a patient came into the office or called on the 'phone.

The dentist may be in sorts or out of sorts, happy or sad; the patient may be pleasant or unpleasant; but in spite of this, the dental nurse should maintain 100 per cent. cheerfulness, particularly in her relations with the patient.

Then he proceeded with his subject, telling of the great changes that have been made in dentistry; how Preventive Dentistry has been forced upon us. Dr. Hunter eleven years ago first told us that diseased teeth caused illness of the body; that a diseased condition existing around the tooth caused a diseased condition of the body by infection getting into the blood stream, and thus setting up trouble in some part of the anatomy where resistance was low. He used as an illustration the story of the mill stream getting cluttered up here and there with twigs and chips, and finally causing congestion further down the river.

Our resistance is lowered through overwork, worry, exposure to cold and wet, so it is of the greatest importance that an area of infection should be X-rayed. For instance, a tooth that has been devitalized may be a source of infection. A vital, healthy tooth can never cause infection.

A great change has been brought about recently through literature and advertisements coming into the home. Almost every magazine today carries

several advertisements of food products—yeast, tooth paste and tooth brushes—all of which in a sort of a way tell the story of diseased mouth and general diseases conditions. Some of this is good and some of it is bad. Our duty as dentists and dental nurses is to set our patients right when they are wrong, to recognize by the very fact that they read these advertisements and ask us questions, that they are interested. They will ask the dental nurse questions they would never think of asking the dentist, and in this way your field of usefulness is being enlarged every day. So be prepared for it by reading all the current literature on Preventive Dentistry that is available.

In Toronto in 1913 95 per cent. of the school children had decayed teeth; in 1925, 52 per cent. of the school children had decayed teeth.

Enamel will never decay if properly formed. With the exception of the four wisdom teeth the enamel of every tooth is formed when the child reaches the age of seven years. Therefore the most important time in Preventive Dentistry should be during the nine months of prenatal life and the first seven years of childhood—or in other words, during the period of enamel formation. The baby teeth which come through the gums when the child is six months old begin to form at the third month of pre-natal life; the permanent teeth that come through the gums when the child is six years old begin to form about the eighth month of pre-natal life. This shows you the importance of carrying this knowledge of tooth formation to mothers and prospective mothers.

Diet—In order to build healthy tooth structure there must be natural foods used—uncooked foods, largely natural foods, consisting of: Dairy products, whole wheat bread, baked potatoes, raw fruits, raw vegetables, etc., and there must be exercise by definite chewing.

This also is a big factor in promoting healthy tooth structure. Oral hygiene is a most important factor. Due to irregularities, malformations and decay, food lodges between the teeth, fermentation takes place very rapidly, with a constant temperature of 98 degrees, moisture, and the presence of bacteria, decay of food substances takes place about sixteen times faster in the mouth than in the open air at the same temperature. So let us remember this when the patient asks us if it is necessary to brush the teeth and how often.

Dr. Adams introduced the first free clinics in the world, and there are now thirty-five dentists in the city of Toronto devoting six half days of each week to Free Clinics.

Dr. Thomson also mentioned one of the outstanding facts in life, that loving one's work made for success, and he brought his most inspiring address to a close by quoting those famous lines of Henry Van Dyke on "Work"—"Let me but do my work from day to day, etc."

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Announcement is made that the regular June examinations held by the College of Dental Surgeons of British Columbia have just been concluded, and the following were qualified to practise in British Columbia: W. A. Allen, E. G. Bryant, J. A. Chambers, P. J. Cheney, K. Claman, H. M. Cline, G. C. Dart, L. K. Grady, F. Harling, A. H. Henderson, T. H. Johns, A. L. Johnson, S. M. McQueen, D. H. Munro, W. G. Newby, W. H. Noble, W. L. L. Osterhout, C. M. Pineo, C. L. Rowland, A. J. Sipes, W. R. P. Williamson.

# Societies

## Chicago Dental Society Annual Clinic and Meeting

The midwinter clinic and meeting of the Chicago Dental Society will be held at the Drake, January 27, 28, and 29, 1926.

A splendid program is in preparation which will surpass any of the previous efforts of the Society. All members of the American Dental Association are cordially invited and are most welcome. Information may be secured from any of the following chairmen:

Otto U. King, 58 E. Washington St., Programme Committee;

O. J. Olafson, 1307 N. California Ave., Clinic Committee;

James W. Ford, 25 E. Washington Street, Exhibit Committee.

Hotel reservations should be made direct with the particular hostelry you prefer. Certainly the Drake would be most convenient.

For general information, address the undersigned.

Hugo G. Fisher, Secretary,
25 E. Washington Street.

## Fall Clinic Montreal Dental Club

On November 5, 6 and 7 the Montreal Dental Club will hold its fall clinic. The clinicians will include such well known men as Dr. T. B. Hartzell, Minneapolis, on Disease of the Gums; Dr. G. B. Winter, St. Louis, on Exodontia. Dr. Woodworth, Chicago, on a new technique for Cast Bridework; Dr. Felix French, Ottawa, on Prosthetics; Dr. Lowe Young, New York, on What the General Practitioner Can Do With Orthodontia, and others.

A banquet will be held on Friday night, and on Saturday afternoon visitors may attend the Varsity-McGill football game at the McGill Stadium.

All ethical dentists are invited to attend this practical clinic. The cost of the clinic is $25.

Further information from Dr. A. L. Walsh, c.o. General Hospital, Montreal, Que.

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The post graduate course held at the R.C.D.S., Toronto, during September was well attended both by local members of the profession and by those from great distances.

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A dentist is being sued for $1,000 for breach of contract. The patient applied to the dentist to have some teeth extracted and alleges that he failed to remove all the root of one of them. The judge reserved his judgment.

# Editorial

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Vol. XXXVII TORONTO, OCTOBER, 1925 No. 10

## Local Group Meetings for Technical Study Arranged by the Provincial and National Associations

The dentists of Alberta have tried out a plan of intensive study of special subjects in four places in the province instead of all gathering in the same place. On the face of it, this would seem to have much to commend it. Of recent years there is a marked tendency to divide all general meetings into sections or small groups for clinics, demonstrations and discussions. It is thought that no group should be larger than twenty members. This being the tendency there is no good reason why a hundred or two hundred dentists should travel hundreds of miles to get together, only to be separated into small groups, if the study of technical dentistry is the object. The provincial organization made all the arrangements as to dates, place of meeting, the subjects to be discussed, and the teachers employed. Alberta was fortunate in securing the services of Dr. W. D. N. Moore, of Chicago, who is a graduate of the R.C.D.S., as well as the Chicago College of Dental Surgery. The subject was gold inlays and attachments for bridges and partial dentures.

In a country so large as Canada, with its population spread over such a large area, much waste of time and money occurs by holding meetings at too widely separated centres. The same teachers might well make a tour across Canada, stopping only at such points as would warrant the time and expense. This kind of organization might well be in the hands

of the Canadian Dental Association. Again what seems to be unfortunate is that there is no one person who knows the dates of meetings to be held. Each provincial, local and national association chooses its own dates of meeting, have little knowledge what other meetings are to be held which might assist or detract from its meeting. Exhibitors find it more expensive and irksome than need be if there were some more systematic arrangement of dates of meetings.

Speaking quite locally in Ontario and Quebec, a noted essayist, clinician or demonstrator's time might be saved if he went east in Ontario, calling at London, Hamilton, Toronto, Peterborough, Kingston, Ottawa, Montreal, and perhaps Quebec. There is no sense in gathering any more together at each place than belong to the area, because they could not be instructed in larger groups. The Ontario Dental Association might well interest itself in such matters, and not have one city jockeying with another to get their clinician. The Canadian Clubs of Canada have some such scheme of getting speakers. During every year there are noted dental visitors to Canada from England, France, the United States and Australia, but no one seems to know about it or take advantage of their presence. Hence Canadian dentists must visit abroad to keep from provincialism.

It must not be thought from the foregoing that there should not be general meetings of the profession. There are many matters of general interest to the profession which can only be dealt with at a mass meeting. Dentistry should be organized in Canada in a much more effective manner than in the past, so that Canada may become as well known in the dental world as she is in the wheat, fish, timber and mineral worlds.

## Limitation of Actions for Negligence

No duly registered member of the College of Physicians and Surgeons of Ontario shall be liable to any action for negligence or malpractice by reason of professional services requested or rendered unless such action is commenced within one year from the date when in the matter complained of such professional services terminated.

There is no such provision in the Dentistry Act of Ontario. An action can be brought years after the services have been rendered. Generally such delayed actions are without much merit. Something other than the suffering and disabilities of the dentist's neglect is usually the real cause of action. Besides witnesses, records, and the recollection of the case are all likely to be unavailable at the time of trial. For these and other reasons the Medical Act provides as above while the dentist must stand trial at any time. In a recent case a dentist had to defend an action, the cause of which dates back many years, the patient being in good health for years after the operation. If a patient can discover nothing wrong for a year, surely it might be presumed that the dentist's work was not far astray.

At the coming session of the Ontario Legislature some changes must be made in the Dentistry Act because of the new relations between the School of Dentistry and the University of Toronto. This would be a splendid opportunity to have inserted in the Act some limitation of actions for malpractice. As years go on there will be more and more actions taken against dentists for malpractice. Most dental acts have limitation of action.

and Ontario has the precedent of medicine, so there should be no difficulty in making this slight addition to the Act. The Board of Directors, who have such matters in charge, might well look up the precedence and prepare a fairly complete brief on the subject for presentation if found necessary.

## A Dentist Sued for Breach of Contract

Mrs. McCann, Toronto, consulted Dr. E. W. Paul, Toronto, in September, 1921, to have teeth extracted. The records did not show what teeth were extracted, but in the autumn of 1924 she had pain and discomfort in the region of the wisdom tooth of the lower jaw. She applied to St. Michael's Hospital, where several teeth were removed. There was evidence of the presence of a root of a tooth in the region mentioned. About the new year pain became severe and X-rays were taken and the root of a tooth extracted and an incision made through the cheek. The patient made a good recovery and later brought suit against Dr. Paul for breach of contract. The usual procedure is to bring actions for malpractice before a judge, but breach of contract seemed to her counsel to be the safest procedure. Generally speaking, malpractise suits are tried by a judge without jury, but claims for breach of contract go to a jury. However in this case there seemed to be a desire to hold to both claims so the jury was stricken out, but the prosecution stuck pretty squarely to the breach of contract case. The claims of special contracts to remove a tooth were not made out, nor was it made very clear that the tooth root removed at the hospital was the third molar, as claimed by the patient. Much was made of the fact that the dentist did not remove the tooth which the patient asked him to remove, and whether it was good practise to leave a root in the jaws. Though it was not clearly remembered in this case that the patient was told there was a piece of root remaining yet, the dentist made it clear that such was his practise except in cases of neurasthenics, in which there would be unnecessary worry caused the patient. Many experts were called to testify as to what is or is not good practice in such cases. Judge Wismer found that there was no negligence, and that a dentist only contracts to treat the trouble of a patient with the best of his skill and that he does not contract to do any definite or particular thing.

## Notes

The 50th anniversary of the organization of the Eastern Ontario Dental Association will be held in Ottawa, 1927.

If the dentist gives much of his time in doing work for the very poor he must make a high charge for the balance of his time to make a living for himself. In such cases, what is to be done for the self-respecting citizen of small means? There is a notion abroad in the dental profession that a full dental fee or a uniform fee should be charged everyone. If such a policy is followed there is a tendency to pauperize self-respecting citizens.

A dental service is to be organized in the province of Quebec.

Dr. Ellis Gatenby has opened a dental office at Three Rivers, P.Q.

The Nova Scotia dental association has a membership of 128.

The Franco-American Dental Co. was incorporated in Quebec in August. Capital $10,000.

Dr. James Black, Vancouver, says: "Ban the all day sucker and save the teeth of the rising generation."

Dr. Thomas Muir, Trail, B.C., was married to Miss Phyllis Keyes, Rossland, B.C., June 29, 1925.

The medical health officer of Nelson, B.C., in an address to the Rotarians urged the establishment of a dental clinic.

The publication of a quarterly bulletin on dentistry by the Nova Scotia Dental Association was left in the hands of a committee.

Dr. W. B. Amy was a visitor at the annual meeting of the Nova Scotia Dental Association meeting at Digby, 1925.

There are ten clinics staffed in Halifax by the Dalhousie clinic and three by the Massachusetts-Halifax Health Foundation.

Drs. Gillespie and Burden of the New Brunswick Dental Association were sent as official delegates to attend the Nova Scotia Dental Association.

The travelling dental ambulance takes the dental office to the patient, so there may be no excuse for neglected teeth on the score of distance.

Dr. J. J. Brown, Woodstock, Ont., in an address to the local Rotary Club said the modern cooked and preserved foods caused idle teeth, and like all idle things they decay.

The President of the New Brunswick Dental Association said in his annual address: "It is up to us to do our full share and do it honestly, and that, in my opinion, is by educating the parents and children in cleanliness of the mouth and early attention to defective teeth."

The department of health of the Ontario legislature gave a very extensive display of health teaching in the government building at the Canadian National Exhibition, Toronto. Among the chief attractions was the dental clinic, where examinations, diagnoses and advice were given free by members of the profession of Toronto.

A current newspaper report says Prof. A. I. Asgis of New York was visiting the Berlin Zoo, and on being told that an elephant had become vicious he suggested that a tooth was the cause. Upon this suggestion it is expected treatment will follow and the animal will soon be himself again. This was written up in a style which would indicate a marvelous discovery.

How are you going to be successful in treatment if you do not understand the essence of disease?—(*Galen*).

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When will dentists give up trying to delude their patients by guaranteeing their services? Even the peddler has given up this form of deception.

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Dr. Badcock in his presidential address before the British Dental Association contends that the teeth of the nation are getting worse and worse.

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Dr. Moony, of Edmonton, in a recent address asked this significant question: "Why should a doctor limiting his practise to the eye, ear and nose be considered a medical specialist, and another equally well trained but limiting his practise to the teeth be not so considered?"

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A St. Mary's, Ont., newspaper makes an awful wail because the Dental Board objected to a Hamilton dentist grossly advertising. It is made out that the only objection is to advertising in newspapers. This is not the case at all. If any newspaper feels aggrieved at the Board's action write Dr. W. E. Wilmott, 240 College Street, and get the real charge.

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In Judge Morson's Court, Toronto, it came out in evidence that Dr. Okum had made a set of artificial teeth for Mr. George Cairn last April, on which he had made a payment of $15, and was now being held by Dr. Okum until the balance was paid. In the meantime the patient had procured teeth from someone else. The judge told Dr. Okum inasmuch as there had been no agreement by which the teeth were to be paid for before delivery he would have to refund the fifteen dollars paid on account. It seems rather strange that goods can be ordered and payment withheld even after delivery.

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Dentists in attendance at the Edmonton meeting, when Dr. W. D. N. Moore, Chicago, gave a clinic on gold inlays and porcelain jacket crowns.

Following are the names of Edmonton delegates in attendance: W. W. Astle, H. E. Bulyea, R. W. Bradley, A. Clermont, W. H. Chinneck, J. B. Carmichael, R. Decker, M. M. Dunsworth, Lee R. Dodds, C. E. Eastwood, S. W. D. Frith, G. A. Gemeroy, G. J. Hope, N. W. Havnes, W. S. Hamilton, A. E. Heacock, A. E. Jamieson, L. V. Janes, H. W. Knight, Maurice Kline, J. S. Lowther, G. E. Long, H. M. Landing, C. H. Lipsey, A. B. Mason, F. S. Mercer, Don Marrion, C. I. Madill, H. MacCrostie, James McPherson, Leslie McIntyre, M. A. McIntyre, J. W. MacQueen, J. G. Roberts, R. A. Rooney, O. F. Strong, S. M. Snedden, W. I. Turner, H. F. Whittaker, W. R. Wilkinson, J. E. Wilkinson, H. A. Wood, H. B. Wood.

The following delegates were from out-of-town points: C. E. Budd, Ponoka; H. M. Brown, Fort Saskatchewan; H. L. Coursier, Wainwright; H. J. Clarke, Vermilion; H. O. L. Canniff, Provost; H. G. Hoare, Wetaskiwin; W. T. Havnes, Hardisty; Z. A. Morris, Jasper; H. B. Ness, Camrose; L. G. Robinson, B. N. Schlain, J. H. Moore, Lacombe; W. H. Murray, Camrose; G. R. Murray, Sedgewick; D. A. McLeod, Wetaskiwin; F. E. Dodds, Westlock; W. A. Shea, Camrose; W. H. Scott, Vermilion; J. C. Ward, Leduc; Dr. Green, Peace River; Dr. Lindly, Lloydminster, Sask.; P. W. Winthrop, Saskatoon; Dr. Wilson, North Battleford, Sask.

# Book Review

## EVERYDAY MOUTH HYGIENE

By Joseph Head, M.D., D.D.S., Dentist to the Jefferson Hospital, Philadelphia. 12mo of 67 Pages, With 39 Illustrations. London and Philadelphia. W. B. Saunders, Cloth, $1.25. McAinsh and Co., Limited, 4 to 12 College St., Toronto, Ont., Canadian Distributors.

During the past few years much has been said and written on the subject of oral hygiene, and especially on brushing the teeth. There are advocates of all kinds of brushes and motions to clean the gums and teeth. This little book contains exact teaching on how to do this most difficult operation—*brush the teeth*. The design of the brush used is better than the average, but it continues that fallacy of attempting to brush all surfaces of all teeth with the same size and form of brush. The sooner the profession realizes that tooth brushes will have to be chosen in size and form to suit the surfaces to be brushed the better will be the results. This booklet should be put into the hands of parents and teachers.

# Obituary

Dr. Francis H. B. Sefton, who died Sept. 14, 1925, was one of the veterans among the local dentists, having practiced his profession for 53 years. Dr. Sefton was born in Worcester, England, in 1853. He came to Canada and settled in Toronto while a boy, his father, the late Henry F. Sefton, having been for many years Professor of Music at the Model School. Prof. Sefton was a pioneer in the musical life of the city, and composed one of the popular patriotic songs of his day.

After entering the profession of dentistry, Dr. Sefton had a practice in Prescott for ten years, and married Amy Feilde of that town, daughter of the late Fulford B. Feilde, Assistant Commissariat-General of his Majesty's forces in Canada, and grand-daughter of the Rev. Robert Blakey, the first Anglican rector of Prescott. Forty-three years ago he returned to Toronto, and continued a downtown practice here until his health began to fail shortly before his final illness.

Dr. Sefton is survived by his widow and five children, three sons, Harry, Hugh and Edmund, and two daughters, Misses Bessie and Doris; also four grandchildren. Three sisters also survive him, Miss Martha Sefton and Mrs George Hodgens of Toronto, and Mrs. Chester E. Campbell of Niagara Falls, N.Y. He was an Anglican.

Dr. William Cuthbert, a dentist of long standing in Brantford, Ont., died July 14, 1925. Dr. Cuthbert was in a street car accident some years ago and never fully recovered. He held the post of school dentist for many years.

# Dominion Dental Journal

Vol. XXXVII TORONTO, NOVEMBER, 1925 No. 11


## ORIGINAL COMMUNICATIONS

### The Oral Surgeon: Quid Sit?


BY FREDERICK A. KEYES, D.M.D., BOSTON, MASS.


The following paper was an attempt to bring to the attention of members of the dental profession the pernicious methods in vogue by many of our "new crop" oral surgeons. We have had in past years and at the present time, men who have given freely and honestly to the advancement of real oral surgery. These men's names seldom appear in telephone books as "Oral Surgeons," nor does their office stationery carry with it the impression of superiority in Oral Surgery or exodontia. They have quietly done their work, and left their mark in the pages of dental progress. These real oral surgeons regret more deeply than any of us the inroads made by the fakirs in their specialty. A brief reading of dental literature is all that is necessary to discover who's who in Oral Surgery. Long live the *real* oral surgeons of ten years ago! A speedy death to the untrained impostors of to-day!

The writer of this article is a common ordinary every-day dentist, who has tried for seventeen years to familiarize himself with all that can be considered progressive in dentistry. He has attended dental meetings, read carefully the many articles, profitable and otherwise, in dental journals, and has weathered fairly successfully the various storms of professional life. He has seen the so-called "head liners" in dentistry eat humble pie, and the so-called nonentities give honest service in contrast to the dishonest profiteering of charlatans, masquerading under the title of "Specialists." He has no personal animus against dental roentgenologist, nor anything but pity for the so-called "oral surgeon," or rural surgeon, or oral searcher, as they are better known to some of our professional brethren.

The writer has in several papers in the past two years stated quite plainly his opinion of the so-called X-ray experts and oral surgeons. In fact, he had thought that his duty to his profession in this respect had been

amply fulfilled. The present situation in dentistry is responsible for this effusion. It is this condition which has invited further exposure of the methods of the so-called "Kultured" specialist in dentistry.

In continuing to treat these specialists with tolerance, dentists are not doing their duty. This spirit of bear and forbear should be succeeded by a more positive, active attitude. Away with the whispered comments and the timid criticism! Let us be definite! Let us laugh or scourge them to scorn and cease "damning them with faint praise!" For surely, if we take them at all seriously, their present grandiose air will increase with time, if possible, until it will be necessary to add to our already over-burdened list of specialists one which can be termed by no other word than dental Paresiso'ogy.

It is well to look for a cause when the effect is so disastrous as present day conditions in our professional life would indicate. The unskilled, untrained workman of yesterday is to-day the X-ray specialist and oral surgeon and focal infection specialist. We all know dentists of mediocre ability of three or four years ago who are to-day classified as skilled specialists. What miracle has produced these supermen? The magician of old had not greater power over the ignorant masses than the oral surgeon, etc., has on the average common every-day dentist of to-day. A clear understanding of the birth of these specialists is necessary in order to see from what idealistic (?) grounds their mystic cult has sprung.

The medical and dental supply houses, sensing the importance of the advent of focal infection from a purely business viewpoint (which it was just that they should) have sold more white enamel outfits, curettes, chisels, blood pressure apparati, distilled water apparati, etc., than ever before in the history of their fairly lucrative business experience. Your upright dental salesman, with all the honesty of a modern business man, has been the post graduate instructor of the dental profession. The benefit derived from his propaganda has been great. The damage done has been still greater. He has handled the job from a purely business side, which was the only side with which he was familiar, and dentists have taken it bait, hook and all. Many a conscientious and competent dentist adding daily by his work to the sum total of professional advancement has been spoiled overnight by the lorelei of "bigger money," "greater professional prestige," offered behind the purchase of an X-ray outfit and white breeches. The fact that Dr. Jones up the street has purchased a new $2,500 white enameled outfit (including X-ray machine) less than six months ago, and is now driving a Twin Six, and working only four hours a day, is very alluring to us poor mortals. When we hear that Dr. Jones, who less than two years ago we know positively was a mediocre dentist, greets his patients in a spotless white gown, face mask, cap, shoes, and rubber gloves (the gloves I regret to say are still brown, but I am sure that they, too, will soon be white), is apparently prospering beyond your wildest dreams of avarice—well the jig is up! Mr. Common-every-day dentist decides that he, too, will play the game. What of our boasted ethics, our ideals nurtured in our dental colleges? Sad but true, the old respected professors of former days to whom we could always look for evidence of the nobility of our calling are fast disappearing, and in their places we have these professional filibusters posing as "specialists." So, if into the temple of the dental hierarchy the money changers have been admitted, what can be expected of the great mass of dentists, the hoipolloi of the profession? We must then

be kind to the ordinary lost sheep of our profession who are at present waking up, and concentrate our jibes at the real—oh, so learned leaders in these specialties.

The ideal media for the oral surgeon and the X-ray specialist are the learned chairs presided over by "most honorable men." Oh shades of Miller, Morton, Wells, Black, etc., that dentists should allow their birthright to be sold for a mess of pottage by these mysterious canting specialists!

Let us be concrete. An illustration of the workings of an oral focal infection and X-ray specialist. (It's a fine game!)

Mr. X., an average common every-day American citizen in the best of health, at present with an ordinary toothache (pulpitis, acute alveolar abscess) enters the office of the oral surgeon (attendants, maids, hygienist, colored lights, etc.) meets specialist. A list of questions calculated to obtain a fee for X-ray pictures is as follows:— "Have you ever had rheumatism, pain in the back, legs, joints, etc.? Do you feel tired? Are you suffering from malaise, can't sleep at night, loss of appetite, kidney trouble, heart trouble, stomach trouble, any insanity in family, etc., recently and if so, how long?" If the patient weathers the barrage fire the doctor produces the blood pressure apparatus. "Ah! Three points over (or under). Just as I thought. Mumm! I advise an X-ray of your tooth at once." Coolidge tube placed in position and dental gatling opens fire. Mr. X. retires to rest, while the films are being developed. Specialist recalls Mr. X. "As I expected, we find by the radiogram that you have fourteen granulomas, sixteen pus pockets, and one or two cystomas. This is very *serious*. In fact, if you expect any relief at all from your constitutional symptoms, you should be operated on at once."

Patient dazedly consents (Hospital is called, operating room booked for next morning, particularly if patient is wearing a fur coat and arrives in a limousine). Otherwise the rural surgeon prepares for the operation at once. While the rural surgeon is performing his preliminary ablutions Mr. X. timidly inquires as to how many teeth are to be extracted. "Extracting or pulling teeth is obsolete. For you see we oral surgeons, appreciating the damage that might arise from the surgical removal of the vital organisms, the teeth, have after persistent experimentation, developed a technic. I might say without being considered unduly boastful, that my technic has been accepted by the profession as the best method, which has proved most successful in 100% of our cases. It consists in elevating the mucous membrane and periosteum, chiseling the outer plate of the jaw bone, and curetting the necrotic bone and gangrenous tissue, removing polypi and all putrescent material, in other words removing the cyst en masse. This is the only logical operative procedure in cases of this type where the radiograph is so strongly positive of pathological bone changes."

"But the tooth," Mr. X. manages to gasp.

"Oh, yes, yes, the tooth of course is picked out after we chisel the outer wall of the jaw bone. Yes! I never do anything but a so-called flap operation."

By this time Mr. X. is completely anaesthetized by the fear and awe of the impending "operation."

Next follows an elaborate description of the novocaine technic. The patient now has his face scrubbed with green soap and water (as yet, to my knowledge he is not given a shave and a coat of iodine), is invested

with cap and sterile towels placed all over his face, and the rural surgeon steps forward to his free delivery.

During the operation the patient is encouraged as follows:

"What a hard calcified jaw bone—necrotic bone, gangrenous tissue—a cyst extending over three more teeth than the radiograph shows—much worse than I expected—antral involvement," etc.

The flaps are brought together with horse hair stitches and minutely explained. Wick is inserted and all is well.

The final scene is now enacted. A curetteful of healthy bone is now displayed to Mr. X. and a minute description of how necrotic this bone was found, a piece of gum surrounded by a blood clot is labeled the "sac of the granuloma," and the rural surgeon withdraws to his sanctum sanctorum and sighs "One more have I snatched from the very doors of death!"

But in the outer chamber awaits the "lady in white," as Dr. Kells referred to her some months ago in Oral Hygiene, and demurely suggests to Mr. X. that the doctor's fee for his services will be $200.00.

The patient holds his aching jaw and empty purse and thanks God that he is alive. The rural surgeon thanks God for the wise counsel of some of our learned professors and specialists who have blazoned the path in this fertile field of professional endeavor.

You and I, commonplace every-day dentists, would have extracted the one tooth under novocaine or gas (with slight curetting of the jaw bone, if you have a tendency that way) collected that $5, $10, or $15, and dismissed the patient in at least one half an hour, and proceeded with our routine practice.

Is this the next great step in preventive medicine? Gentlemen of the dental profession, when we meet this type of oral surgeon, or hear of one, let us laugh! laugh! laugh! and drive these human vultures, hypocritical aseptic leeches out of our honored ranks.

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# A Practical Study of the Enamel

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Success in all filling and inlay restorations depends finally on our knowledge and appreciation of the structural character of the enamel. Briefly, it is made up of elements of two densities, the prisms and interprismatic cementing substance. The prisms are from four to six microns in diameter and are fairly uniform throughout their length. The dentinal surface is not so great as the outer enamel surface, which means that the spaces between the outer ends of the rods are filled with supplementary rods, which condition prevails principally over the cusps of teeth.

Now, observe the direction of the rods of the enamel. They give one the sense of mathematical certainty in cavity preparation, I should say. But like most human certainties this one is at best doubtfully certain. Enamel is as variable in its architecture as is any other animal tissue, and perhaps more so than most tissues. Speaking of them collectively the rods do not run perpendicularly to any diameter; they seldom run straight from the dentin to the surface. The rods over the dentin cusps do not always terminate in the enamel cusps. Again, we are told that enamel is made up of straight and gnarled arrangements in certain localities. I have seen many

where gnarled enamel prevailed throughout the entire thickness of the tissue, but seldom is straight enamel characteristic of any surface. The inner half is usually gnarled. At the point where the rods tip together I have seen them perfectly straight. Variation, always and ever variation!

This is enough about the structure for our purpose. With this we may see the relation of histology to the labor of the office. We recall rod sizes. Imagine a filling that is ocularly perfect but around whose margins a rod has fallen out here and there. The mouth, we will say, is in a cycle of susceptibility. What does an absent rod mean in relation to bacterial invasion? A space left vacant by such a fault is large enough to be a bacterial turnpike. Further, the size of rods means that a cavity cannot be prepared with a bur or finished with a dull chisel, a truism that explains a vast amount of failing restorations. That is certainly clear, no matter how bad one's vision might be. Rod direction with its high variability teaches us that cavities cannot be prepared by "rule of thumb." With every wall must go the consciousness of all the possibilities of enamel architecture. Detecting rod direction will demand a fine instrument edge and a similar skill. Add to this the need of a protecting angle to the cavity wall as the result of the rod direction and we may write *quod erat demonstrandum* after this item. Such histology lays at our doors responsibility for lost teeth, lost health, lost happiness, for many a patient.

THOMAS.

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# Treatment of Exposed and Putrescent Pulps in Deciduous Teeth

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Capping is very independable where decay has been the cause of an exposure, if the mouth is one which can be made healthy in other respects and the tooth in question is to stay in any length of time, say one year, devitalization does prove satisfactory and well worth the trouble involved.

Syringe tooth with cold water, which retards hemorrhage, and seal in phenol for day or two. I then seal in arsenic fibre, a minute pellet wrapped in cotton dipped in cloves. Use temporary cement for both these dressings. Leave only 24 hours, when pulp chamber can be opened up, tissue removed and cavity properly prepared. Do not insert instrument into canals in molars, be sure to examine gums for leakage of arsenic. Wash chamber well with cold water, until hemorrhage stops, dry and seal in phenol with temporary stopping. Remove a day or two later, keeping cavity dry and replace with formo cresol. This is removed two days later, pulp chamber tested with hydrogen peroxide, if no effervescence, fill chamber with alum paste or compound composed of zno +cl+aristol, pack cavity with temporary stopping and leave until next appointment, when paste will be packed well into canals. Leave as much as possible of stopping and fill with Cu Amalgam. Greatest difficulty will be to keep tooth dry while changing dressings. Temporary stopping is advocated, because it is so easily and quickly removed, and the pressure during mastication on the stopping tends to force formo cresol into the canals where it coagulates the tissue lift. It tends too to push tissue away from the gingival margins. Do not use where pressure on gums causes soreness, and don't leave for more than two or three days.

Dead pulps may be classed under three headings:

In Class I. bacteria have invaded pulp, setting up irritation which strangulates it, causing death. In this group also are included death through traumatic injury, where patient is seen very soon after accident. Growth and spread of bacteria into canals has not taken place. The treatment is the same as for exposure, omitting arsenic of course, and to insure asepsis it is well to use two treatments of formo cresol.

Class II. includes all teeth with septic pulps, but where there is no fistula although alveolar abscess may be forming, special attention must be paid to physical condition of child, if he is undernourished and tooth is within one or two years of exoliation it may be wise to extract. Do not judge entirely by condition on first visit. Rest and relief from pain may make a very different showing. On second visit, open into pulp chamber and obtain drainage, if much soreness, it is best to leave open for 24 hours. Pack loosely with cotton, instruct patient to administer cathartic, advise rest. At second visit, open up pulp chamber, wash cavity, remove all debris dry and seal in formo cresol. Proceed as with previous outline. If contents of canals do not wash out, clean with small barbed broach, being very careful not to force any septic material through apex. Afterwards use only curved explorer during treatment. Renew formo cresol treatment until when peroxide is used all effervescence ceases. Then fill with alum paste, being careful to carry paste well into larger canal.

Class III includes abscessed teeth having fistulae opening upon the gums. The prognosis of a tooth in this condition is uncertain, if the floor of pulp chamber has softened do not make an attempt to save.

In treating, clean the cavity and treat with formo cresol as in Class II., leaving fistula alone. It has not been successful to try forcing any treatment through tooth and out through fistula. If fistula has not healed after third treatment it should be given care. If swelling over end of sinus has not broken through incise. If after treatment with iodine and camphor phenique fistula does not heal, extract tooth.

If patient presents with swelling on face, have him kept in bed between appointments and fed light nutritious diet. Be very careful to instruct against external poulticing. If there is any sign of abscess breaking on face, treat tooth by obtaining drainage and call in competent surgeon at once.

## Diagnosis—Its Value and Importance

*Dr. M. M. House, Deaner Institute, Kansas City, Mo.*

After showing some slides, Dr. House remarked:

I wish to call your attention to one fact, and if I don't bring anything more to you, as a message, I think the time is well spent. In considering this work, you will note that I have spoken purely of functional conditions habitual in each case of condyle angles. If we stop to think that the condyles are for the purpose of limiting the movements, we will then begin to arrive at a more understandable terminology from the standpoint of our work. The fact is we have had two distinct schools—one speaking of condyle angles and the other disregarding them, whereas it is merely a

matter of functional conditions we have to consider and I will try to bring them more clearly to your minds when showing the slides.

I appreciate very much this opportunity of appearing before you and I hope the message I bring to you may be worthy of the confidence you have expressed by your invitation.

I feel at home with you because of all our mutual American interests, etc. But especially because of our many mutual good friends and acquaintances in Canada who are so well known to us for their exceptional abilities as educators, research workers and capable practitioners. We feel much favored and also indebted to you for many, but especially two of your native sons, who have received all the honors our profession in the U.S.A. has been able to bestow in appreciation for the great and unceasing work they have done for the betterment of dentistry. I speak of Drs. C. N Johnson and W. A. Giffen.

Dental history tells us that dentistry was originally developed as a mechanical art and not until comparatively recent years has it been worthy of recognition as a learned profession. This change was only made possible by an application of the sciences to our many problems for through science only has the present day of enlightenment, knowledge, and civilized progress been made possible.

The great amount of study and research pertaining to dental diseases and foci of infection has brought to our realization the seriousness of poorly designed, ill-fitting and inefficient restorations in both operative and prosthetic fields as a direct cause of infection and health decline.

As a profession we have but one field of endeavor in which to serve and that is health service, which when really rendered is priceless, due to the fact that health is the most important thing in life.

Careful study and close observation of dental conditions and results have definitely proven that the two great causes of failure in all branches of dentistry are lack of fundamental knowledge and correct diagnosis: if either is lacking, failure is inevitable.

The fact that humanity is losing its teeth with increasing rapidity rapidly demands of us as a profession a much improved service in removable prosthetic restorations, the three most outstanding improvements being esthetics, comfort, and efficient mastication.

Esthetics require a thorough knowledge of many subjects namely, Biology, Anatomy, Physiopogy, etc., and many of the arts both fine and mechanical.

Comfort and efficient mastication are dependent on a correct diagnosis, a properly designed appliance and a high degree of accuracy in construction, using the best materials obtainable.

Much has been accomplished in recent years with a more definite understanding of occlusion, its importance during the period of osseous development and its effect upon facial form and health both oral and systemic.

A knowledge of biology, embryology, histology, general anatomy, dental anatomy, physiology, orthodontia, radiography, etc., are essential in order to make a correct diagnosis of our cases and conditions in our daily practice, be they edentulous or otherwise.

Full maxillary and mandibular radiograms are necessary in all cases including the edentulous if we expect to render a health service to humanity.

You are all familiar with the work that has been done in the study of anatomy, geometry, and mechanics of the occlusion by the many investigators.

Intensive study, acute observation and practical tests of the work of the various writers in all the branches of dentistry where occlusion is a factor, proves conclusively to me that as a profession we are just beginning to realize that occlusion and normal function are the fundamentals upon which facial development and the restorative science of dentistry is dependent.

A great deal has been written in recent years regarding balanced occlusion of natural teeth or the advisability of making balanced occlusion with fixed or removable restorations where nature fails.

A careful study and acute observation of a large number of cases with fine natural dentures and a good occlusion will convince the most skeptical that balanced occlusion is the ideal, but can in no way be classed as the normal. (If we understand the term normal to mean the average condition because we find truly balanced occlusions with natural dentitions to be very rare.

Since 1915 I have been studying intensively edentulous conditions and the results of artificial dentures as regards esthetics, comfort and efficient health service, and I have found all three factors are of equal importance.

I speak of esthetics in this regard as restoring correct facial dimensions, and placement of the mandible which is without question a factor of greatest importance in mastication, deglutition and normal function. Tooth form, alignment in the arch form, color harmony, etc., are of vital importance in a large percentage of cases, which of course is of psychological value to health.

Comfort with full dentures is dependent on many things, viz., health of the patient, thickness and sensitivity of the investing membrane, adaption of the dentures, etc., but especially I wish to call your attention to the importance of not only balanced occlusion which is essential in full denture service and made possible only by correct registration of the functional habitual in each case, but to the effect and results of locked occlusion and the lack of cuspal interdigitation and co-ordination in the various ranges of occlusion.

Having tested the various methods of impression making technics, articulators, etc., as taught and advocated and having seen and observed the work of the leading prothetists, no two of whom agree because of the lack of a proven application to science, plus the fact of progressive residual change and atrophy of tissue under dentures, I decided to investigate another phase of occlusion or, to be more specific, to make a study of fine natural dentures where there were no teeth missing and no fillings or restorative work to affect the occlusion in the various stages of wear.

I first examined a large number of extracted teeth under a magnifying glass in order to see the effect of wear as nature did it, and instead of the worn surfaces being flat or planes they proved to be all arcs and curves.

The examination of the fine natural dentitions not only showed the curves on the worn surfaces, but the cases with second and third stages of wear showed perfect mortar and pestle effects in the molars and bicuspids. Another point of importance was the fact that in all cases with uniformity of wear regardless of overbite there was no evidence of pyorrhea or loosening of the teeth. Apply this knowledge to a study of my own case, having thirty-two teeth without a cavity but having

an excessive overbite and a forward thrust of the upper incisors with but little wear on the posterior teeth and seemingly less wear on the lingual surfaces of the upper incisors, I found that my lower anterior were forcing the upper incisors forward because of the incline plane or wedge shape of the lingual surfaces.

I also found that the opening and closing ratio of the anterior teeth as compared with the third molars was three to one, so for every one-fourth millimeter of wear on the third molars a full millimeter of wear would have been required on the anterior teeth to have prevented the present condition.

I then made a device using the Gysi face bow to locate the heads of my condyles and placed a rod across the top of the maxillary cast of my case with the face bow correctly placed to the mandibular cast, so the needle points were opposite when the casts were in the central occlusion. With this device I could test the horizontal freedom of the occlusion in all ranges as the slightest vertical incline would raise the needle point on the upper cast above that on the face bow.

I found a slight horizontal movement in all ranges but a much greater freedom in rotation, the pivoting point being the bicuspid region. I also found the horizontal freedom to be in proportion to wear with the cases tested.

I then removed the first upper and lower molars which were not worn, from some skulls and tested them to see if they were locked relations when placed together and they proved to have horizontal freedom as I had found in casts with a full complement of teeth.

A test was then made with porcelain teeth using the upper and lower first molars, both shallow and deep bite forms as they came from the manufacturer with the result that all were locked regardless of bite depths.

An examination of over two hundred cases wearing full dentures has shown perfectly locked occlusion regardless of machine grinding or chewed in cases. Now the effect of these locked occlusions in artificial restorations is irritation sufficient in all cases to cause progressive residual charge and refitting of dentures of which we hear so much.

Five investigators, Christiansen, Gysi, Williams, Monson and Needles find the principle of occlusion is spherical and the curves of wear as I found them seems to be further proof of this fact.

In tests and measurements made by Dr. J. Leon Williams and myself in 1919 with spherical plates and three point tracings of the lateral horizontal arcob movement, (the results of which were published in the "National Journal," 1921), we were so thoroughly convinced that the spherical principle was an essential to prosthetic requirements that we carved an upper and lower set of bicuspids and molars from spherical plaster blocks of a four-inch radius. The points of the upper cusps when finished then fitted perfectly to the lower spherical blocks giving the correct axial alignment of each tooth.

This set of teeth was carved for experimental work and to test deep bite efficiency.

I have found by test that they have less locking effect in occlusion and when used with the spherical technic they work harmoniously with the functional arcs and curves of occlusion.

Dr. Needles added to the work of three point tracings as made by Drs. Gysi and Williams by having the patient chew the three points into all ranges of occlusion which gives a true record of the functional movements

habitual to the patient. By sealing the gum plates to place with a gum tragacanth powder and having the patient chew the occlusal curves from spherical bite rims the pressure normal to the finished working denture is utilized taking up the resilient effects which makes the curves of occlusion concentric to all functional movements of the mandible, an essential to balanced occlusion.

Correct diagnosis of the edentulous case then requires the following:

Full maxilliary and mandibular radiograms. Results of early development and function. Age, health, and mental or nervous type of the patient, effects of surgery and absorption, determinating the amount of usable bearing area, form of residual area, arch form, vault form, facial form, muscular tone and development, thickness of investing membrane over the area to be covered by dentures, height of the border tissue attachments, muscle and frenae attachments ridge relation, saliva, form and size of tongue, and the resilient immovable tissue for posterior border seal in vault.

## Beginning Practice as an Assistant

Avoid taking patients first day except for consultations.

Get acquainted with the running of the office.

Look over the laboratory.

Examine the equipment.

Mix the plaster with and without the hastener.

Mix the investment materials, stone, etc.

Examine the casting machine. Try how it works.

Watch how the vulcanizer works.

Examine the lathe and attachments.

Don't offer suggestions on any subject.

Be a good listener. Observe and absorb.

There will be plenty of time later to give advice.

Go over the gas outfit. See how it works.

Note if there are any means of resuscitation.

Examine the exodontia outfit.

Complain of nothing unless you intend to buy it.

Everything may be wrong according to Ritters layout or equipment. Wait and watch it work.

Don't be too sure of the right method of arranging your own outfit.

Note how patients are received, treated and dealt with.

Note above all the professional relations between patients, nurse, and dentist.

Have a thought about sterilization.

We are glad to receive the Indian Dental Journal. It contains about fifty pages of reading matter and many substantial advertisers. Issued quarterly and edited by R. Ahmed, D.D.S. It is published by the Indian Dental Journal, 12/1 Esplanade East, Calcutta, India.

# Dr. W. D. N. Moore's Clinics in Alberta

Leslie McIntyre, D.D.S., Edmonton

Feeling that the stereotyped form of annual Dental convention, though good, did not bring out as many men as could be gotten by another system, the Alberta Dental Board decided that for 1925 a new plan would be tried out.

Alberta has four large centres, favorably located from a geographical standpoint, to act as rallying points for both country and city. It was felt that to have a first class clinician visit each place according to a previously determined plan would enable every man in Alberta to avail himself of the chance for self improvement. So an arrangement was entered into by means of which a two-day clinic was held in Medicine Hat on August 24th and 25th; in Lethbridge, August 27th and 28th; at Calgary, Sept. 1, 2, 3 and 4, were given over to a four-day session, while the circuit plan finished in Edmonton with classes on Sept. 8, 9, 10 and 11. Over 130 men, some from over in Saskatchewan, took advantage of these meetings, and the whole thing worked out beyond the best hopes of the Board.

The plan was of little value without a suitable demonstrator. Theoretical, fee-seeking essayists glut the market; but Alberta sought someone who ranked beyond the average as a practitioner yet who spoke a language the garden variety of dentist could understand. Dr. W. D. N. Moore, of Chicago, at personal sacrifice, consented to cover the itinerary, and Alberta made a wonderful bargain. Dr. Moore took three weeks to cover the ground and conducted classes before six different groups. His work was on inlay construction, three-quarter crowns, pin inlays and gold shells. His demostrations were entirely practical and the maximum of work was covered in the minimum of time. Though Dr. Moore had little idea of the men he was to meet and had a superabundace of ideas to select from, it was really remarkable how he had carefully selected just what was needed most, and had left behind what would have been excess. He gave exactly what was wanted. To those who listened to Dr. Moore it was a privilege; and his personality, earnestness, exactness of technic, and high ideals, certainly stimulated the men to better efforts.

Old friends in Spokane learned of Dr. Moore's work in Alberta and extended him an invitation to appear before the Spokane County Dental Association on his homeward journey. This he accepted, and has routed himself via Spokane. Alberta will long remember and splendidly profit by Dr. Moore's visit.

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The Ford Motor Company has decided to give a thorough training in either tool, die, electrical or sheet metal, extending over three years, at 40 cents an hour for the first year, 50 cents the second year, and 60 cents an hour for the third year. This offer is open to the graduates of the Technical School of Windsor.

# Constitution of the Dental Society of Western Canada

Re-organized May, 1925

## ARTICLE I.

The name of this organization shall be "The Dental Society of Western Canada."

## ARTICLE II.

### Object

The object of this Society shall be: To cultivate and promote the art and science of dentistry; to stimulate activity in dental and oral research; to elevate and sustain the professional character of dentists, and to promote good fellowship among them; to disseminate knowledge of dentistry and dental discoveries; to enlighten and direct public opinion in relation to dental problems; and to promote the common interests of the members of the dental profession.

The Society shall endeavor to cover more particularly, the territory in Canada between Lake Superior and the Rocky Mountains, so long as the practitioners in said territory are willing to co-operate.

## ARTICLE III.

### Membership

A. Legislative Membership—The regularly elected and qualified members of the House of delegates as described, constituted and provided for in these By-laws shall constitute the membership of this Society in its legislative capacity.

B. General Membership—The general membership of the Society shall consist of the members of the constituent local societies and others as may be elected or appointed in accordance with the administrative By-laws as hereinafter provided.

The general membership may be divided into sub-classes as provided in Chapter 1. of the Administrative By-laws.

## ARTICLE IV.

### Constituent Societies

Section 1. The legislative Board or Council in each province participating in this Society.

Section 2. The Provincial Dental Societies.

Section 3. The organized local dental societies.

## ARTICLE V.

### The House of Delegates

Section 1. There shall be a business body known as the House of Delegates of the Dental Society of Western Canada. It shall consist of the delegates elected by the constituent societies and shall be the representative body of these societies. It shall transact all the business of the Society, public, professional and scientific, not otherwise provided for by these By-laws. It shall elect the general officers of the Society. It shall arrange to have the accounts of the treasurer audited biennially.

Section 2. The total voting membership in the House of Delegates shall be as follows:

Each participating province shall have ten delegates and one additional delegate for each fifty members over two hundred.

The Thunder Bay Dental Society shall have two delegates.

The Thunder Bay Dental Society shall appoint its delegates.

These allottments may be changed from time to time by the House of Delegates.

Section 4. Each delegate must present proper credentials signed by the secretary of the Provincial Dental Board.

## ARTICLE VI.

The Dental Society of Western Canada shall meet every two years at the time and place chosen by the House of Delegates.

## ARTICLE VII.

### Officers

Section 1. The general officers of the Society shall be a President, two Vice-Presidents, a General Secretary, and a Treasurer.

Section 2. The Officers shall be elected at each biennial meeting of the Society by the House of Delegates to serve until their successors are appointed.

## ARTICLE VIII.

### Executive Committee

Section 1. The five officers of the Society shall constitute the Executive Committee.

Section 2. The Executive Committee shall carry out the orders of the House of Delegates. It shall carry on all necessary business of the Society between meetings.

Section 3. It shall meet in the place where the next convention is to be held approximately one year before the date of the convention at the call of the President. The travelling expenses to such executive meetings are to be paid by the Dental Society of Western Canada. By travelling expenses is meant 15c. a mile one way.

The Executive shall arrange a joint meeting with the officers of the local society and make all arrangements for the next convention, appointing the necessary committees.

Section 4. It shall examine and pass on all papers read before the Society and shall endorse for publication only those that are of scientific or practical value.

## ARTICLE IX.

### Dues

Section 1. Each constituent local society shall be required to add one dollar to their annual dues, and send in one dollar each year for each of its members to the treasurer of the Dental Society of Western Canada. Payments are to be made yearly, the second payment to be made at least one month before the convention dates.

Section 2. The dues to be paid by those who attend the convention will be determined from time to time by the executive committee.

Section 3. Those living in unorganized territory may be admitted to the convention as members by paying the convention dues, plus two dollars.

Section 4. Those living in organized territory must be active members of the local society before they will be admitted to any convention meeting of the Society.

## ARTICLE X.

### Amendments

The House of Delegates may amend or alter these Constitutional By-laws at any biennial session, by a two-thirds vote of those present.

## Administrative By-Laws

### CHAPTER I.

#### Membership

Active Members—The presentation of a properly certified roster of members in good standing of a constituent local society, together with the biennial dues, shall establish the full membership of each member thereof as a member of this Society. Such membership entitles the member to attend any convention meeting of the Society by paying the convention dues.

Honorary Members—Dentists who have arisen to pre-eminence in the profession shall be eligible to honorary membership. They may be elected by the House of Delegates, but not more than two at any one biennial meeting.

Subsidiary Members—Shall consist of undergraduate students of dentistry. They shall not be required to pay the convention dues.

In addition to the above those living in unorganized territory shall become active members at any convention by paying the convention dues, plus two dollars.

### CHAPTER II.

#### Registration

Section 1. No members shall take part in the proceedings of the Society until he has registered and secured an official badge.

Section 2. A guest badge will be provided for legally qualified practitioners living outside of Western Canada.

Section 3. Exhibitors' badges may be issued to exhibitors and their employees.

### CHAPTER III.

#### Registration of Delegates and Alternates

Section 1. To be represented in the House of Delegates the Secretary of each Provincial Board shall file with the general secretary of this Society at least ten days prior to the first day of the biennial session a list of the names of its delegates and alternates.

The Secretary of the Thunder Bay Dental Society shall also file a list of the names of its delegates and alternates.

### CHAPTER IV.

#### Procedure of House of Delegates

Section 1:

1. Call to order by the President.
2. Roll call.
3. Reading and adoption of minutes.
4. Reports of Officers.
5. Reports of Committees.
6. Unfinished business.
7. New business.
8. Election of Officers (not to take office till close of convention).

Section 2. One-fifth of the voting members of the House of Delegates shall constitute a quoroum.

### CHAPTER V.

#### Meetings of the House of Delegates

Section 1. The House of Delegates shall meet biennially on the day of the opening of the Convention and at the same place, or preferably the day before the opening of the Convention.

Section 2. A special session may be called by the President when a majority of the constituent societies demand it.

## CHAPTER VI.

### Officers

Section 1—President—The President shall preside at the general meetings and at the meetings of the House of Delegates, and shall perform such duties as custom and parliamentary usage require. On the first day of the Convention following his election he shall deliver an address at the general meeting not exceeding thirty minutes in length.

Section 2—Vice-Presidents — The Vice-Presidents shall assist the president. During his absence, or at his request, one of them shall officiate in his place.

Section 3—General Secretary—The general secretary shall give due notice of the time and place of all biennial and special sessions of the Society and of the House of Delegates. He shall notify members of committees of their appointment and of the duties assigned to them. It shall be his duty to verify the credentials of members of the House of Delegates and to provide a registration book for them, in which shall be recorded the name of each delegate in attendance at each session. He shall collect all dues and transmit the same to the treasurer. He shall conduct all correspondence required of him by the Society or House of Delegates. He shall keep in separate books the minutes of the general meetings and of the House of Delegates.

Section 4—Treasurer—The treasurer shall be the custodian of all moneys belonging to the Society and shall make disbursements upon the order of the President, or as directed by the House of Delegates. He shall at each biennial meeting of the House of Delegates give a full report of the financial condition of the Society.

## CHAPTER VII.

### Committees

Section 1—The Executive Committee, in conjunction with the officers of the local society where the next convention is to be held, will appoint all the standing committees which in their judgment is necessary.

## CHAPTER VIII.

### General Meetings

Order of business:

1. Calling the Meeting to order.
2. Prayer.
3. Address of welcome and response.
4. Reports of committee on arrangements.
5. President's biennial address.
6. Literary program.
7. Adjournment.

## CHAPTER IX.

### Amendments

The House of Delegates may amend or alter these By-laws at any biennial session by a two-thirds vote of those present.

## CHAPTER X.

### Ethics

The code of Ethics of this Society shall be that of the Dominion Dental Council.

Notwithstanding anything herein before contained, no one shall be eligible for membership in either House of Delegates, or in any Convention, who does not subscribe to this code of Ethics.

# SELECTIONS

## Negligence

The subject of negligence is a very interesting one, especially from the point of view of the lawyer, for this is a subject which is not confined within the somewhat procrustean limits of the statute law and offers a field for speculation in the general principles of the common law. This means that the law of negligence is comprised in the decided cases which are grounded on no law except previous cases which in their turn came from the ancient common law of England. Negligence has been defined as "omitting to do something that a reasonable man would do or doing something which a reasonable man would not do." You see, therefore, that the standard is neither fixed nor defined. The standard is the care which the ordinary reasonable man observes. Thus, there is a duty on all to take reasonable care. In a civilized community, there is a duty incumbent on each person to observe ordinary and reasonable care in his conduct so as not to injure his neighbor. The man walking along the street must not unduly jostle other people in his way. Old ladies must keep their umbrellas well under control, etc. These are examples, however, of the general duty to take care. In the case of a professional and skilled man, there is placed upon him a duty more than the ordinary duty to take care. This is a duty to bring to bear on work the degree of skill and care which is usually associated with a man who holds himself out to possess the qualifications of that profession or trade. Thus, if in a lonely spot I come across a man who has broken his arm, and I do my best to set it, but unfortunately do it badly, the man cannot claim damages from me, because I have not held myself out to possess any skill as a bone-setter, but if the same man had been treated by a surgeon and the same result had ensued, then he would have a good claim for damages for negligence against the surgeon, because the surgeon as a member of his profession impliedly holds himself out as possessing certain skill in relation to such matters. So also the dental surgeon is looked to, to exercise the care and skill associated with a reasonable knowledge of his profession. If he does not bring to bear the ordinary care and skill which the average member of his profession possesses, then he may find himself liable to an action for negligence should his operations not be successful. Negligence in law is a tort. A tort can be roughly defined as a breach of duty not arising out of contract, and in it are included such causes of action as negligence, libel, slander, malicious prosecution and assault. These rights do not arise out of any particular contract between the parties, but are the result of the general principles of law. In the case of a professional man's services, if he should be negligent, his client or patient, as the case may be, can proceed against him either in tort or in contract. That is to say, he can proceed against him under the general rules of law, to the effect that he has not exercised the necessary skill looked for in his profession, or he can proceed against him for breach of the contract existing between the two, that the professional man will well and truly carry out his part of the contract.

An interesting point arises in the relationship of a dentist and an anaesthetist. Suppose the anaesthetist is negligent and the patient suffers in consequence, who is liable, the dentist or the anaesthetist? The guiding principle is: Is the anaesthetist the workman or the agent of the dentist? If he is, then the dentist is liable for his negligence. If he is not, but is, as we describe such a person in law, an independent contractor, then the dentist is not liable, but the anaesthetist himself is liable. In general law the master is liable for the negligence of his workman in conducting the ordinary affairs of his business. Thus, if I send out my chauffeur, and whilst in my car he negligently kills a man, I am responsible in damages. Similarly, if a man is my agent and he commits some breach of duty whilst he is engaged on my work, I am also liable there. But if I employ an independent contractor to do some work in connection with other work in which I am engaged, then I shall not be liable. For example, if I am a builder, and I am building a house and I engage a firm to lay on the gas pipes, and a workman employed by that firm is negligent, then I am not liable, as the company I have employed are independent of me in so far as their work is concerned, as they possess that special skill peculiar to their trade; consequently I am not liable for their negligence. The same position arises when two skilled men are engaged on, roughly speaking, the same work, each skilled in his own sphere. Thus you have the case of solicitor and counsel. Suppose the solicitor asks for counsel's advice, and he acts on that advice, then the solicitor is released from any charge of negligence should counsel's advice have been faulty. In the particular position of the dentist and the anaesthetist it appears to me that you have here the case of two skilled men each working in his own sphere. Complication admittedly does arise so far as the dentist has a knowledge, or is expected to have a knowledge, of the administering of an anaesthetic, but, putting that aside for the moment, it appears to me that the doctor engaged in the case is an independent contractor, bringing with him special skill in the way of administering the anaesthetic, and if, moreover, the doctor should be the patient's own doctor, and should have been ordered by the patient and the appointment made by him, then I fail to see how the dentist can be liable at all. A slight difference may arise if the patient leaves it to the dentist to choose the doctor and makes an appointment to meet at the surgery. In that case there is some evidence to show that the doctor is the servant of the dentist. But even here the dentist will not be liable unless he chose a doctor whom he knew to be incompetent.

A point of interest arises as to whether a professional man is liable for negligence in rendering services for which he will not receive payment. In law a gratuitous contract is not enforceable. That is to say, there must be a consideration passing between the parties and should be rendered by each one. Thus, if I write to A and promise to give him £100 on Christmas Day, and I fail to carry out my promise, he cannot sue for the £100 as he has given no consideration therefor. In other words, he has done nothing reciprocal to earn my £100. But if there should be a condition conjoined to my promise to the effect that he shall do something or suffer something or pay something, then, if he carries out such condition, he will be entitled to the £100 and can sue me for it. For example, if I promise him £100 on condition that he buy his wife a new hat, and he does so, then he can claim my £100 even if the work which he was called upon to do may not be worth the compensating gift of the £100. This is the case with ordinary contracts with regard to the buying and selling of goods, the performing

of ordinary services; but there is one instance in which a promise without consideration may ground an action, and that is where a man promises to do a thing and actually embarks on the project, in which case if the other party suffers negligence then he may sue the promisor. The classic case on this subject is Coggs v. Bernard. In this case A had a barrel of brandy sent to his house on a dray. At the time of arrival B, who was a friend of A, happened to be standing near the house and thinking to do A a good turn offered to unload the barrel of brandy. If he had stopped at that point and had retracted his promise then A could not have sued him, because it was a gratuitous promise. But B took hold of the barrel of brandy and negligently let it fall on to the pavement and it was staved in and the brandy was lost. A sued B successfully. Although the promise was gratuitous yet B having entered on the execution of the promise was liable for negligence in carrying it out. This also applies to professional men, for though they are giving their services gratuitously yet they are liable for negligence if those services are not carried out with the same degree of skill and care as they use in ordinary matters.

# Societies

## Chicago Dental Society's Annual Meeting and Clinic, January 27, 28, 29, 1926—Drake Hotel

The sixty-second annual meeting and clinic of the Chicago Dental Society will be held at the Drake Hotel, Chicago, January 27, 28 and 29, 1926, Wednesday, Thursday and Friday. The plans for this meeting have been perfected and contemplate the establishment of a new mark in program building. That the 1926 meeting will excel all previous records of this society is witnessed by the following facts:

1. There will appear on the literary program 256 men to present papers, addresses and discussions in the ten different sections, and at two noon day luncheons and the two big general session meetings.

2. Two one-half days will be devoted to clinics—Thursday afternoon and Friday morning. This clinic program will consist of seven types, as follows:

(a) Progressive clinics
(b) Lecture clinics
(c) Section clinics
(d) Junior clinics
(e) Table and chair clinics
(f) Study Club clinics
(g) Senior student clinics

There will be a total of 200 clinics, 100 to be given each half day.

3. The president of the American Dental Association, Dr. Sheppard W. Foster, and Mrs. Foster, will be the guests of honor at a banquet which will be followed by a program of dancing and entertainment.

4. The number of commercial exhibits will excel all previous records for more space has already been sold (October 10th) than for any previous meeting of this society.

Railroad rates have been secured for this annual meeting.

A special invitation is extended to all members of the American Dental Association and to dentists living in foreign countries who are members in good standing of their national societies.

Hotel reservations should be made immediately, direct with the hotels.

We are gratified to announce to the profession that Dr. Otto U. King, General Secretary of the American Dental Association, is chairman of the program committee.

M. M. PRINTZ, President.
HUGO G. FISHER, Secretary.

## Ontario Dental Society

The Board of Governors of the Ontario Dental Association decided to hold the next Convention at the King Edward Hotel, May 17 to 20, 1926.

Dr. J. A. Bothwell was elected chairman of the Board, and the following committees were appointed to take charge of the various activities:

CLINICS—Drs. Amy, Clappison, and Ellis.

PUBLICITY—Drs. McLaughlin, Chalmers, Devitt, Sprott, Winnett, and Campbell.

EXHIBITS—Dr. Zimmerman.

ARRANGEMENTS—Drs. Kennedy and Thompson.

ENTERTAINMENT—Drs. Thompson, Moore, and Hoskin.

REGISTRATION—Dr. Bothwell.

The Publicity Committee was instructed to make arrangements to publish "The Booster"; the Board being unanimously of the opinion that it provided the best means of getting in touch with the members of the profession and presenting to them the attractive features of the convention.

The Association is becoming so large and the work of arranging for the convention so onerous that it was determined to have the Secretary-Treasurer act as the Secretary of each committee and carry into effect the decisions arrived at by the various committees. In this way the different departments of work will be correlated, and overlapping and overlooking reduced to a minimum. The Secretary-Treasurer was authorized to engage a stenographer on a half-time basis, and will be given an honorarium commensurate with the services rendered.

## Canadian Dental Association, Halifax, August 16, 17, 18, 19, 1926

The dates selected for the next biennial meeting of the Canadian Dental Association in Halifax are August 16-17-18-19, 1926. These dates have been selected after correspondence with a large number of

dentists in different parts of Canada as likely to be the most suitable. While they will not prove suitable for anyone who is planning to take in the meetings of the Orthodontists during the week previous to the International Dental Convention, they will allow sufficient time for any who are planning to take in the Canadian and International meetings.

Did you take that trip to Vancouver with Gus Kennedy in 1924? If you did, enough said, you will be already planning to round out your coast to coast trip with him. If you didn't, get in touch with him right away so he will be able to make his plans. We will placate our Western friends right here by saying that we may not have anything in scenery to equal the Rockies in grandeur, but if you come by train you will pass through areas of rare beauty on your way. And if you plan to come by car you will find good roads all the way through Eastern Canada.

If you are a Maritime man who has wandered far from home, what better time to take a vacation trip and see the old boys again. If you have never come down here by the sea then you have missed a delightful part of Canada, rich in historical associations.

Now that the local committees have begun actual work we will have something to tell you each month in this column.

Have you some ideas which will help the success of the meeting, or is there some information you want? Following are the chairmen of the various committees:

Programme—Dr. W.C. Oxner, Halifax; Exhibits—Dr. Karl Woodbury, Halifax; Publicity— Dr. F. W. Johnson, Halifax; Entertainment, Dr. W. H. H. Beckwith, Halifax; Entertainment (Ladies)—Mrs. G. K. Thomson, Halifax; Transportation—Dr. C. B. H. Climo, Halifax; Special train party from Toronto—Dr. C. A. Kennedy, 86 Bloor St. W., Toronto.

DR. G. K. THOMSON, Pres., Chronicle Bldg., Halifax.

DR. J. STANLEY BAGNALL, Sec.-Treas., 34 Larch St., Halifax.

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# Canadian Dental Hygiene Council

The annual general meeting of the Council was held June 15th, 1925, 1 p.m., at the King Edward Hotel, Toronto.

In the absence of the President, General S. C. Mewburn, Dr. W. C. Trotter, Chairman of the Executive, presided. There were present: Drs. A. J. Broughton, H. G. Robb, F. J. Conboy, J. A. Bothwell, H. Clark, Devitt, I. Ante, Wallace Seccombe, R. G. McLaughlin, R. J. Reade, Arthur Day, Col. G. G. Nasmith, W. G. Spaulding, Frank Price, H. S. Thomson and E. A. Grant.

As the minutes of the last annual meeting had been printed in the Dental Journals, and copies also sent to all the members, the secretary moved that they be taken as read. Seconded by Dr. Broughton, and carried.

Dr. Trotter presented the report of Executive as follows:

Your executive committee has held many meetings since the last general meeting in November. At that time there were only seven members on the executive besides the president and vice-president of the Council. Since then the following members have been added to the executive, viz.: Dr. A. W. Ellis of Toronto, Dr. R. J. Reade of Toronto, Dr. G. N. Stultz

of Halifax, Dr. Eudore Dubeau of Montreal, Dr. C. H. Juvet of Ottawa, Dr. J. F. Morrison of Winnipeg, Dr. D. J. Ferguson of Saskatoon, Dr. Roy Wilson of Vancouver. This makes up the number called for by the Constitution. It should be decided at this meeting as to how many should constitute a quorum in meetings of the executive.

Our field officer, Dr. Harry S. Thomson, has been carrying on extensive educational and propaganda work in almost every part of Canada except the Maritime provinces, which he expects to visit this summer. The detailed reports of his work are deposited with the secretary, but Dr. Thomson will give the meeting a brief summary of those reports.

Our aim is to assist in educating both the public and the dentists to appreciate the importance of dental health, and to co-operate with the provincial health bodies in every province.

We think there is a most important field for our work in endeavoring to organize some sort of dental service for immigrants. A discussion of this suggestion by those present to-day might be profitable.

Organizing dental services in Federal and Provincial institutions, hospitals and sanitoria also offers us a field to work in. In fact, there is no difficulty finding work to do, but to finance the work is the problem. The executive would suggest the advisability of enlisting the aid of lady workers on the Council. We figure that to carry on our work efficiently in the coming year we should have a revenue of approximately ten thousand dollars.

The Secretary-Treasurer will present the financial report.

I think you will all agree with me that the time has arrived when we must put on a well organized intensive collecting campaign throughout Canada to get subscriptions to aid in the work of this Council, probably the most favorable time will be in October or November.

(Signed) W. Cecil Trotter,
Chairman Executive Committee,
June 15th, 1925.

Dr. Trotter moved the adoption of this report, seconded by Dr. Seccombe. Carried.

The next order of business was the secretary's report.

### Secretary's Report

Before reading the financial statement, a few explanations might be in order:

*First*: It only covers the short period from October 7th, 1924, when the first general meeting of the Council was held, up to April 30th, 1925, which, according to the Constitution, is the end of our financial year.

*Second*: As receipts have been small, it has been necessary to be economical, and this has been made possible through the kindness of the C.O.P.A. in temporarily loaning Dr. H. S. Thomson to act as Field Secretary, without salary, until such time as our finances are placed upon a better basis, and also to the kindness of the R.C.D.S., in giving us office space without charge and part time of one of the College stenographers at a nominal salary.

STATEMENT OF RECEIPTS AND DISBURSEMENTS
(From October 7th, 1924, to April 30th, 1925)

| | |
|---|---|
| **Receipts:** | |
| Cash in bank, October 7th, 1924 | $1,052.80 |
| Contribuitons, as per schedule below | 129.00 |
| | $1,181.80 |
| **Disbursements:** | |
| Travelling Expenses | 802.44 |
| Stenographic assistance, Stationery and Postage | 63.95 |
| Sundry Expenses | 5.20 |
| | 871.59 |
| Cash on hand in Bank | 310.21 |
| | $1,181.80 |
| **Contributions:** | |
| Oct. 21, 1924, Dr. A. W. Ellis, Toronto, Ont. | $ 5.00 |
| Oct. 28, 1924, Dr. M. A. Ross Thomas, London, Ont. | 3.00 |
| Nov. 15, 1924, Dr. J. E. Gee, Fernie, B.C. | 10.00 |
| Nov. 15, 1924, Dr. H. A. Adams, Tisdale, Sask. | 3.00 |
| Dec. 10, 1924, Dental Education Committee, Winnipeg, Man. | 100.00 |
| Dec. 12, 1924, Dr. H. E. Eaton, Toronto, Ont. | 5.00 |
| Jan. 10, 1925, Dr. L. B. Nutall, Prescott, Ont. | 3.00 |
| | $129.00 |

Audited and certified correct.
Thorne, Mulholland, Howson and McPherson,
Chartered Accountants, Auditors.

The Secretary moved the adoption of the above report. This was seconded by Dr. Box, and carried.

Dr. H. S. Thomson, Field Secretary, was then called on for his report, and spoke as follows:

Mr. Chairman.

I wish to give you just a sort of short review of the work done by your Field Secretary during the last six months, the detailed report of which has been handed to your secretary.

Commencing January, 1925, we entered upon a definite programme of visiting as much as possible of the Dominion, in order that we might tell the dentists for what the C. D. H. C. stands, why it has been formed, and what we hope it will accomplish. With this object in view, six of the nine provinces have been visited, the territory extending from Quebec City in the East to Victoria, B.C., in the West. In every city visited the local dental society spent an entire evening discussing our Council, its work and its opportunities of usefulness. Your Field Secretary outlined the constitution and explained the aims and objects of the Council. There then followed a general discussion, by which we all profited mutually. These meetings were without exception splendid successes; in many cities we had an attendance well up to 100%, and throughout the middle west many men came considerable distances from outlying points to hear the story. Such enthusiasm as was manifest at these meetings confirms our conviction that there is a great desire for just such an organization as the C. D. H. C.

On the trip through the provinces of Manitoba, Saskatchewan, Alberta, British Columbia, at the request of the Provincial Society Executive, or Oral Hygiene Committee, a programme of educational work along Oral Hygiene or Public Dental Health lines was carried out. For this purpose, from two to five days were spent in every city. A programme previously arranged by the local Oral Hygiene Committee, included addresses to school teachers, University, College and Normal School students, High School, Collegiate and Public School pupils, women's clubs, men's service clubs, meetings for the general public, and nurses in training, and public health nurses, Boards of Trade, Boy Scouts and Girl Guides.

At every one of these meetings the keenest interest was manifested, and in some cities the number of meetings was limited only by the lack of time. This interest proves that the public is thinking along lines of public dental health, and it requires only that we should disseminate what knowledge we have acquired through experience and study to soon make it necessary that every city, municipality and Provincial government will be convinced that dental hygiene is the most important of all preventive measures. In this manner we have been able to carry the story of the Council and its usefulness to a large proportion of the people of Canada. Many letters from dentists throughout Western Canada have expressed the appreciation of the societies for the work that was done in their cities. The good such work accomplishes is most apparent to those most closely connected with it. All of the work of the C. D. H. C. is done through and at the request of the Provincial and local dental societies; in fact, our object is in every way to assist these societies to carry on definite and active campaigns for Oral Hygiene.

Funds to carry on the work of our Council are greatly needed, and we are asking the Federal Government to assist us with a grant of $10,000 a year for five years. To convince the government of the need of their assuming their share of responsibility in this public dental health work, it has been necessary for your Secretary to make several trips to Ottawa, to personally interview the Premier and members of the Cabinet and explain to them the justification of asking for such a grant. I think much has been accomplished, but little could have been done without the personal efforts and co-operation of our President.

I wish also to thank the dentists of Ottawa for their assistance. Many of them at much personal inconvenience have attended and arranged meetings and interviews, which otherwise would have been impossible. Dentists all over Canada have whole-heartedly lent their assistance and have secured letters, etc., from prominent and influential citizens that have added prestige to our cause. The result of these efforts will be known in a few days.

The co-operation of other allied organizations and philanthropists, as well as financial assistance, is most necessary if our work is to go on successfully. The maintenance of a Central Bureau of information, and headquarters of our Council in Toronto is one of the most important phases of our work. Here will be collected material to assist the carrying on of the work, such as stories, pamphlets, charts, slides, films, outline lectures, and general literature on all branches of Oral Hygiene work. Advice will be given as to where the material can be obtained and at what price. In this we hope to be able to assist the dentist in creating a desire in his community for public dental health work which will eventually make it necessary that every province in the Dominion shall follow the example recently set by the Provincial government of Ontario, by having in its Department of Health a Director of Dental Services.

Mere knowledge in itself will do nothing; we must have knowledge followed by practice. It must create in the individual a desire to know and act on his knowledge. It must not only be brought to the few, but time after time the story must be told to the many, so that it will filter down through every section of society, till all have awakened to the necessity of concerted action—a sense of communal responsibility.

And at first to a few of us is given the responsibility of carrying on the propaganda of this knowledge. This sense of responsibility for extension of the knowledge of Oral Hygiene should be awakened first in the dentist, then the physician, outstanding public spirited laymen, educationalists, public service workers, and on down to every man, woman and child in our country, until as the result of the vision of the individual or of the few, the world shall be made better because of our endeavor.

This is the aim of the Canadian Dental Hygiene Council.

(Signed HARRY S. THOMPSON, D.M.D. Field Secretary, C.D.H.C.)

The next order of business was the *election of officers.*

It was moved by Dr. H. Clark, seconded by Dr. A. J. Broughton, that the present officers be re-elected. Carried.

*Executive Committee*: It was moved by Dr. Spaulding, seconded by Dr. McLaughlin, that the present Executive be re-elected. At this stage, Dr. Conboy asked that his name be dropped from the Executive, owing to his heavy duties, and suggested that a layman be added in his place, such as Col. Nasmith. The mover and seconder being agreeable, Col. Nasmith's name was substituted for Dr. Conboy. Col. Nasmith, after some demur, consented to accept, and the motion was carried.

*Auditors*: It was moved by Dr. Fisk, and seconded by Dr. Ante, that the present Auditors be re-appointed. Carried.

As the Executive Council has representatives from all over Canada, and it would be impossible to expect them to attend all executive meetings, Dr. Conboy moved that six (6) members constitute a quorum for Executive meetings. Seconded by Dr. Devitt. Carried.

*Discussion of Report of Chairman of Executive*: This was opened by Dr. Seccombe. Dr. R. J. Reade suggested a plan for providing dental services for immigrants coming into Canada, and thought it would be a good thing for the Council to co-operate with the government in such work. Dr. Nasmith from his experience in the port work of the Canadian Red Cross, thought this would be a very valuable service. Dr. F. Price spoke of the need for dental treatment in Barnardo Homes. Dr. McLaughlin suggested that for a beginning, educational material as to Care of the Mouth and Teeth could be given to immigrants at port of entry.

Dr. Seccombe moved that the following resolution be passed: That "Whereas the Dominion Government has made grants to a number of health organizations, the Canadian Dental Hygiene Council now in annual meeting in Toronto, this fifteenth day of June, 1925, unanimously urge the members of the Dominion Cabinet to comply with the modest request of our Council for a grant of ten thousand dollars," and that a copy of this resolution be sent to each of the Cabinet Ministers without delay.

This was seconded by Col. Nasmith, and carried.

There being no further business, the meeting was adjourned.

EDMUND A. GRANT, Sec.-Treasurer.
Canadian Dental Hygiene Council.

# Editorial

EDITOR:
**A. E. Webster, M.D., D.D.S., M.D.S., Toronto, Canada.**

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ALBERTA—H. F. Whittaker, D.D.S., L.D.S., Edmonton.
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BRITISH COLUMBIA—E. H. Hetherington, D.D.S., L.D.S., Victoria.
ONTARIO—S. Stewart Crouch, D.D.S.

Vol. XXXVII TORONTO, NOVEMBER, 1925 No. 11

As President of the odontology section of the Royal Medical Society of England, J. G. Turner, F.R.C.S., L.D.S., said: "Now a presidential address is by custom above criticism or at least immediate discussion." In America it is quite common to discuss the presidential address and even to appoint a committee to bring in a report at a later session on the remarks of the president and recommendation if any were made. The president is asked to leave the chair during his address and the discussion thereon, so that he may from the floor take part in the discussion of his own address.

There are advantages in both customs. A president who has been in touch with an organization for some time can lay many matters of interest before his hearers, who will help to support the new executive in carrying out his views. On the other hand an address that cannot be discussed can only be of academic interest. Matters of policy might well be presented by the president and discussed by the Association.

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Mr. William Henry Ash, Senior Director of Claudus Ash & Son, now The Amalgamated Dental Company, died August 7, 1925.

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Sir Henry Baldwin says: "More important even than housing is feeding. If the necessary substances are not ingested there can be no perfect development of tissues, no perfect maintenance, no perfect functioning. The harmonious working of the ductless glands, the maintenance of a condition resistant to degeneration and to tubercle—in fact, everything depends upon food. From a dental point of view this importance is two-fold, because diseased dental conditions are due to two kinds of causes, viz., predisposing and actual, and food plays the chief part in both."

A propagandist thinks because he is sincere therefore his opinions must always be correct.

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The Thunder Bay Dental Association were favored in having Dr. Trelford of Toronto who gave a most interesting and practical two-day clinic in periclasia.

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The London county council has arranged for technical classes in dental mechanics for lads under 18 years of age at several places in London. The classes are held three evenings a week at 7.30 to 9.30.

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Doctor H. A. Saunders, formerly of Rainy River, has bought Dr. J. R. Doyle's practice in Port Arthur. Dr. Doyle is moving to Detroit after twelve years of work in Port Arthur, where he has attained a high ethical standing in the profession.

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The officers of the Thunder Bay Dental Association are as follows: Drs. J. S. Ritchie, President, Port Arthur; Vice-President, H. Quackenbush, Fort William; Sec'y-Treasurer, T. H. Hutchinson, Port Arthur; Board of Committee Directors, Mitchell and Doyle.

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For seventeen years the principle of removing decayed teeth with pulp involvement of children of the schools of Cambridge, England, has brought about this result: Eighty-four per cent. of the deciduous teeth are sound. Only five per cent. of decayed teeth are unsavable by filling.

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The dentist in charge of the School Dental Clinic of Cambridge, England, has not been able to make out any general lack of progress among children who refuse to have dental treatment. But he does notice that after maturity has been reached such as have neglected their teeth more readily succumb to chronic diseases. Another remarkable thing is that he recommends that children be brought to the clinic at one year of age, when the teeth are sound and, as he says, can be kept sound with comparative simplicity.

## Health Weeks

There is a tendency in some parts of Canada to follow the Middle West in putting on special days and weeks to study, or rather talk about special subjects. Among these subjects, a health week seems to be very popular. For those who just fall in with the idea rather than object and yet do not feel specially enthusiastic about it, may be helped in crystalizing their opinions on the matter by reading the following quotation from "Arrowsmith," a book recently written by Sinclair Lewis. The quotation comes from that part of the book which tells about the doings of the chief Health Officer in a Western city, where young Arrowsmith was engaged as an assistant. I'm sorry we have not the space to quote from an address by Dr. George Vincent, director of the Rockefeller foundation in the New York Medical Journal, which describes every doctor as a health officer in Denmark with no publicity, propaganda or beating of the pom pom.

Nautilus was one of the first communities in the country to develop the Weeks habit, now so richly grown that we have Correspondence School Week, Christian Science Week, Osteopathy Week, and Georgia Pine Week.

A Week is not merely a week.

If an aggressive, wide-awake, live-wire, and go-ahead church or chamber of commerce or charity desires to improve itself, which means to get mone money, it calls in those few energetic spirits who run any city, and proclaims a Week. This consists of one month of committee meetings, a hundred columns of praise for the organization in the public prints, and finally a day or two on which athletic persons flatter inappreciative audiences in churches or cinema theaters, and the prettiest girls in town have the pleasure of being allowed to talk to male strangers on the street corners, apropos of giving them extremely undecorative tags in exchange for the smallest sums which those strangers think they must pay if they are to be considered gentlemen.

The only variation is the Weeks in which the object is not to acquire money immediately by the sale of tags but by general advertising to get more of it later.

Nautilus had held a Pep Week, during which a race of rapidly talking men, formerly book-agents but now called Efficiency Engineers, went about giving advice to shopkeepers on how to get money away from one another more rapidly, and Dr. Almus Pickerbaugh addressed a prayer-meeting on "The Pep of St. Paul, the First Booster." It had held a Gladhand Week, when everybody was suposed to speak to at least three strangers daily, to the end that infuriated elderly traveling salesmen were backslapped all day long by hearty and powerful unknown persons. There had also been an Old Home Week, a Write to Mother Week, a We Want Your Factory in Nautilus Week, an Eat More Corn Week, a Go to Church Week, a Salvation Army Week, and an Own Your Own Auto Week.

Perhaps the bonniest of all was Y. Week, to raise eighty thousand dollars for a new Y. M. C. A. building.

On the old building were electric signs, changed daily, announcing "You Must Come Across," "Young Man Come Along" and "Your Money Creates 'Appiness." Dr. Pickerbaugh made nineteen addresses in three days, comparing the Y. M. C. A. to the Crusaders, the Apostles, and the expeditions of Dr. Cook—who, he believed, really had discovered the North Pole. Orchid sold three hundred and nineteen Y. tags, seven of them to the same man, who afterward made improper remarks to her. She was rescued by a Y. M. C. A. secretary, who for a considerable time held her hand to calm her.

No organization could rival Almus Pickerbaugh in the invention of Weeks.

He started in January with a Better Babies Week, and a very good Week it was, but so hotly followed by Banish the Booze Week, Tougher Teeth Week, and Stop the Spitter Week that people who lacked his vigor were heard groaning, "My health is being ruined by all this fretting over health."

During Clean-up Week, Pickerbaugh spread abroad a new lyric of his own composition:

> Germs come by stealth
> And ruin health,
> So listen, pard,
> Just drop a card
> To some man who'll clean up your yard
> And that will hit the old germs hard.

Swat the Fly Week brought him, besides the joy of giving prizes to the children who had slaughtered the most flies, the inspiration for two verses. Posters admonished:

> Sell your hammer and buy a horn,
> But hang onto the old fly-swatter.
> If you don't want disease sneaking into the Home
> Then to kill the fly you gotter!

It chanced that the Fraternal Order of Eagles were holding a state convention at Burlington that week, and Pickerbaugh telegraphed to them:

Just mention fly-prevention
At the good old Eagles' convention.

This was quoted in ninety-six newspapers, including one in Alaska, and waving the clippings Pickerbaugh explained to Martin, "Now you see the way a fellow can get the truth across, if he goes at it right."

Three Cigars a Day Week, which Pickerbaugh invented in midsummer, was not altogether successful, partly because an injudicious humorist on a local newspaper wanted to know whether Dr. Pickerbaugh really expected all babes in arms to smoke as many as three cigars a day, and partly because the cigar-manufacturers came around to the Department of Health with strong remarks about Common Sense. Nor was there thorough satisfaction in Can the Cat and Doctor the Dog Week.

With all his Weeks, Pickerbaugh had time to preside over the Program Committee of the State Convention of Health Officers and Agencies.

It was he who wrote the circular letter sent to all members:

Brother Males and Shemales:

Are you coming to the Health Bee? It will be the livest Hop-to-it that this busy lil ole planet has ever see. And it's going to be Practical. We'll kiss out on all these glittering generalities and get messages from men as kin talk, so we can lug a think or two (2) home wid us.

Luther Botts, the famous community-sing leader, will be there to put Wim an Wigor 'n'everything into the program. John F. Zeisser, M.A., M.D., nall the rest of the alphabet (part your hair Jack and look cute, the ladies sure love you) will unlimber a coupla key-notes. (On your tootsies, fellers, thar she blows!) From time to time, if the brakes hold, we will, or shall in the infinitive, hie oursellufs from wherein we art at to thither, and grab a lunch with Wild Wittles.

Do it sound like a good show? It do! Barber, you're next. Let's have those cards saying you're coming.

This created much enthusiasm and merriment. Dr. Feesons of Clinton wrote to Pickerbaugh:

I figure it was largely due to your snappy come-on letter that we pulled such an attendance and with all modesty I think we may say it was the best health convention ever held in the world. I had to laugh at one old hen, Bostonian or somepun, who was howling that your letter was "undignified"! Can you beat it! I think people as hypercritical and lacking in humor as her should be treated with the dignified contempt they deserve, the damn fool!

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## AN INFORMATION BUREAU AGAIN

Our correspondent says there are some dentists who are on the inside and who have a chance to know what materials were found to be the best in the researches done at the university. What he says is true, but all he has to do to be on the inside is to send his name to the Secretary of the C.O.P.A., saying he wishes to be a member and attend the meetings or attend any of the public meetings where such reports are made. If he will ask the research workers for the information which he wants that does not appear in the report, we feel sure they will give it to him.

# CORRESPONDENCE

## A Bureau of Information

A. E. Webster, M.D., D.D.S., M.D.S.,
Editor DOMINION DENTAL JOURNAL,
Toronto, Ont.

Dear Doctor Webster:—May I again inflict a letter on your good nature? There are a few more things I wish to say in support of the policy I advocated in my letter of December 15th, 1924, and which you published in the January number of the DOMINION DENTAL JOURNAL. Because you saw sufficient merit in the previous one to publish, it is the reason of my following it up with this one.

You commented on it editorially that an unsolicited writer was "asking for the very kind of information found in the report," (referring to the report of the findings of the Department of Dental Research published in the same number of the Journal).

Can I then write to them and ask them the manufacturers' names of the alloys they tested and which one gave the best record so far as they went? I want that alloy in my practice, or if I already have it I would like to have the satisfaction of knowing that I am using the right one. I know there are a few dentists on the inside who have this information and are benefitting by it. I do not begrudge this to them, but all I want is to share in it. If it is a benefit to their practice to know the proper one to use, is it not also of importance to me and hundreds of others?

I have long known that a silver alloy makes a good filling material, is not permeable if properly packed, does not wash away, flow, and is sufficiently strong to withstand the stress of mastication. But I have also long known that all silver alloys on the market have not the same formula, and therefore all cannot have the same characteristics. Some will be less permeable than others, stronger, and more resistant to unfavorable conditions.

Some time ago I was influenced to try another alloy than I have been in the habit of using. Great claims were made for it—it maintained its silver color, was stronger than the one I was using (as tested by the Bureau of Standards, Washington, as their representative claimed) etc. I used it for a M-O-D filling in a lower molar. On the next visit of this patient for further work, I had to spend a good deal of the time allotted to this appointment in replacing part of this filling, as he had broken the distal of it. On the next visit I repaired the mesial which was broken, and on his next he presented himself with the distal broken again. I let this stay broken till I could secure another supply of the previous alloy, and when it was used, no trouble has resulted. Extreme care was used to see that the bite was not too heavy, and the stress was not so great but that this alloy should have been able to stand it. The alloy was inferior.

Now why am I required to waste my time experimenting on patients? This experimenting should be done by a research bureau similar to the one I advocated, and the name of the proper alloy to use published as general information. This is only an instance where one quality of the article

becomes evident immediately, but there are many others more difficult to determine which should be determined and made known. This will harm some dental manufacturers? It certainly will, and the sooner the better. There are far too many leeches living on the profession. It will not harm those manufacturers, though, who are really doing something for dentistry, it will do them good.

I have long known that black copper cement is a more efficient germicidal cement than the white, but that made by which manufacturer is again more so, for they differ in composition. Again I have to experiment on patients to find out, or simply take a chance. Also claims are made for Crown and Bridge cements. Are they substantial? Are they also impermeable, fine enough to adapt themselves to the unevenness of the surfaces, and strong enough to hold the parts in their required relationship? Can I ask the Department of Dental Research for the name of the cement that best meets these requirements? Or do I again have to experiment on my patients?

I have long known that copper amalgam was the best germicidal filling to use in dentistry. In regard to this, there is a little mutual incident which occurred, and which I remember but probably you have forgotten. Some time in the 1921-22 session you lectured to the senior class on Copper Amalgam, and told them of the research work being carried on in connection with this material. You emphasized its power of creating a sterile zone around it so strongly that I asked you at the close of the lecture if it would not make a good root-canal filling. I do not remember the unique way in which you answered, but it was to the effect that as far as their present research extended it seemed like the proper material to use, and hence many of my patients are carrying around copper in their root-canals. But it has not proved too satisfactory, because of the difficulty of inserting it. It packs so readily that it is hard to force it to the end, and when Osogen came on the market I turned to it in preference, for it seemed to embody all the benefits of copper amalgam plus some more, besides being the easiest thing to manipulate of any material I have ever used.

When copper amalgam is used as a filling material of any kind, that made by which manufacturer is less susceptible to washing away, pitting, or disintegrating? Or, which one makes the best filling for the longest time? Do I have to experiment on my patients to find out? Many times I have mixed copper amalgam with silver amalgam to make a restoration that would be strong, germicidal, and yet would set readily. Before doing this I tried to find out if such a mixture would interfere with the physical balance of either of them. Being unable to secure this information otherwise, I wrote to the manufacturers of this alloy and asked them. They replied in somewhat startled amusement, saying that they had never been asked such a question but did not think the balance would be harmed. I therefore decided to *experiment* with my patients and try it, and so far to all appearances, it gives me what I wanted—a strong filling, a germicidal filling, one less susceptible to thermal changes, and one that sets as readily and as quickly as does a silver one. I merely prepare the copper amalgam first in the usual way, heating it and mixing it in the mortar. I then put in the required amount of the silver alloy and mercury on top, and let them stand till I have prepared the cavity and am ready to use as soon as mixed. I then mix the two of them the same as I would the plain silver amalgam, work in my hands the same, and pack the same, with the result that it sets

as quickly as does the plain silver one, and I have as yet to see the filling that has not stood up as a silver one would have done. But why am I required to experiment in this way?

Let us return to Osogen. After I had been using it for some time its manufacturers wanted to know if it answered all the requirements of a root-canal filling as I saw them; if an alkaline field was beneficial to the rebuilding of bone about the apices of teeth, in my estimation; if sterilization was best accomplished by the aid of osmotic pressure, etc. How in the dickens do I know? It sounds feasible and sensible to me, as do their other claims, but I am not in a position to go this deeply into the subject. That is what I want a research bureau to do for me.

I could likewise go down the list of materials tested as reported by the Department of Dental Research, University of Toronto, and make similar observations concerning them. Their tests are all right, and they are certainly accomplishing something, but they are only giving us a fraction of the information we desire. Give us the name of the manufacturer who makes the best material to use for each one of these and every other article used in dentistry. That is what I advocate, and I also advocate the establishment of a bureau of information that is not afraid to do this.

For instance, in the February edition of the "Cosmopolitan" is an advertisement of the Metropolitan Life Insurance Co. in which they give the A.B.C. vitamin content of various foods. The very fact that this information is coming from a business firm is a reason why we are skeptical of the authenticity of the information, in spite of the fact that they have undoubtedly secured it from a most reliable source. But why cannot this reliable source put it equally as plain before the general public? Why do we have to secure this information by such a round-about process? Why cannot we secure other equally important information even by a round-about process? Is the experimenting we are compelled to do appreciated by our patients? Fortunately they are in ignorance of the facts, or we would surely hear such complaints that would force us to rectify the conditions very speedily.

Referring again to the report of the Department of Dental Research, part of the second paragraph of their report reads:—

"This present research was undertaken in order to determine:

"1. If certain of the dental cements and fillings on the market were germicidal.

"2. If any of these cements or fillings would permit bacteria to pass through or around them."

What I also want to know is:—

1. The names of these *certain* cements and fillings on the market and the results of their tests by name.

2. The names of every other cement and filling material sold to the profession with the results of their tests tabulated by name.

3. The names of every other article used in dentistry, from office stationery to X-ray equipment, that will best satisfy their respective requirements.

4. A positive method of publishing general dental information, probably by daily newspaper articles. (I am extracting far too many six-year molars and other teeth patients insist on being removed in spite of my advice.)

5. Arguments urging them to have that pit or fissure filled while it is a pit or fissure, such arguments being forced at them so strongly and

continuously that they will recognize them and observe them as readily as they do precautions against infection in wounds. How many outside of the medical profession would now know that there are such things as bacteria if it had not been so persistently brought to their attention?

6, 7, 8, and 9. Add here, and indefinitely, anything of benefit or of interest in or to dentistry.

Is it not good news to read in today's "Mail and Empire" that items 4 and 5 are going to be looked after in a systematic manner by the Dental Service Organization, and that Dr. Conboy has been appointed Provincial Director of it?

Is it possible that we must forever remain indebted to Phillip's Milk of Magnesia for broadcasting the information concerning the care of the deciduous teeth and the early appearing permanent ones?

Am I "asking for the very kind of information found in this report?"

You also comment that "Until dentistry is sufficiently strong to go ahead on a well-founded basis it must remain as it is, dependent upon individuals and outside organizations to do its research work." Is not dentistry one of the strongest professions in the world? Are we kids that our food has to be dished out to us and fed to us by a spoon? Is dentistry weaker than its component parts? Is the whole, then, not greater than but weaker than the part?

You also comment that "Researches take so long that the public and profession have suffered and lost before reports can be made public." Let us assume that it would take ten years before any information could be given the profession. In ten years from now we would be able to use some material and treat some conditions more intelligently. That, I think, is perfectly obvious, but if nothing is done because of these reasons, you can make that same statement at the end of that time, and the force of the statement will be equally as strong. And so it could continue period after period, generation after generation. Some day, it seems, such a thing would be more workable, but I am interested in making it workable at the present time. I want this information for *my* use and the benefit of *my* patients, and the coming generations will benefit the more because of the early start.

You also comment that "No half-baked stuff can come from a dental bureau of information."

Am I advocating half-baked stuff?

When I wrote the first letter I had no intention of following it up with arguments, for I felt that it should be taken up by others from there, if it should prove to have merit. The publicity which you have given it, and the amount of space you were kind enough to devote to comments on it in the editorial column stimulates me in believing that it does contain articles of merit, and that my time was not wasted in advocating this policy. I therefore feel like supporting it and arguing still further in its merits, hoping that I will thereby influence others in supporting it and demanding it.

Yours very truly,

C. W. SOULES.

# Book Reviews

## The Dentist's Own Book

A faithful account of the experiences gained during forty-six years of dental practice. Including a complete bookkeeping and accounting system, and a description of the management of a dental practice. By C. Edmund Kells, D.D.S., New Orleans, La., with 116 illustrations. Published by The C. V. Mosby Company, St. Louis, 1925.

Of all the good books on the subject of Dentistry which have been recently written nothing equals this book of Kells'. It is no compilation. It is a personal book—just plain Edmund Kells. It contains more real common sense in how to conduct a dental practice than all previous books on the subject. It just tells the truth about things. There is none of this grand-stand stuff about charging for broken appointments and for failures in practice. He gives as qualifications for a high-class Dentist, ability, industry, cleanliness, judgment, personality and service. He closes the first part by this quotation from Oliver Wendell Holmes:

"The Dental profession has established and prolonged the reign of beauty. It has added to the charm of social intercourse. It has lent perfection to the strains of eloquence and has taken from old age its most unwelcome feature."

Dentistry having done so much for mankind, should not any man be proud of being a dentist?

The chapter on economics is very helpful and closes with the wonderful admonition: "Let him take his wages in moderation, according to his work and the wealth of his patient and the issue of the disease, and his own worth."

The most interesting part of the book contains many headings, but covers the very parts of dental practice which all need to know the truth about. "A one man office," "Tote fair," "The mechanic and the Wrench," "Blood," "Was he a friend?", "Vacations," "Everlasting Spitting," "The Kiddies," "The Devil and Hot Water," "Life in a One Way Street."

Read Kells' book and have a new interest in honest dentistry.

## Dental Index Bureau

Dental Index Bureau. No better plan of giving the dental profession an appreciation of the work required in preparing an index of dental literature can be found than to publish the report of the Bureau issued last March. Since that time the volume covering the period from 1876 to 1885 has been issued, and it is estimated that the period from 1886 to 1893 will be out before the end of the year.

It will be noticed that all the literature has been collected and indexed and 380,000 cards written up, leaving 210,000 yet to be done. Dentists

know how hard it is to read all that is to be found in any one dental journal and to compare that with all that has ever been written in the English language will give some little appreciation of the work undertaken by Dr. Black, who has the responsibility of collecting, cataloguing, proof reading, and cross-checking everything.

Anyone who has had to do with publications can have some small appreciation of the publishing of ten volumes of over five hundred pages each of details, and seeing to it that each page is correct, and each section located and properly typed, set up, arranged, printed, bound and distributed, not to mention the financing of the whole project. Dr. Abram Hoffman, Buffalo, has charge of the latter part of the undertaking.

**DENTAL INDEX BUREAU**

Table showing progress of work on various volumes in March, 1925, with estimate of what is yet to be done.

| Vol. | Period | Books Collected | Articles Catalogued | Number of Cards | Cards Written | Copy for Printer | Time of Publication |
|---|---|---|---|---|---|---|---|
| 1 | 1839-75 | All | All | 60,000 | All | All | 1923 |
| 2 | 1876-85 | All | All | 70,000 | All | All | 1925 |
| 3 | 1886-93 | All | All | 70,000 | All | | *1925 |
| 4 | 1894-00 | All | All | 70,000 | 20,000 | | *1926 |
| 5 | 1901-05 | All | All | 70,000 | 10,000 | | *1928 |
| 6 | 1906-10 | All | All | 70,000 | 10,000 | | *1929 |
| 7 | 1911-15 | All | All | 60,000 | All | All | 1921 |
| 8 | 1916-20 | All | All | 60,000 | All | All | 1922 |
| 9** | 1921-25 | 4 years | 3 years | 60,000 | 20,000 | 1921 | 1927 |

Estimated number of cards required for complete index, 1839-1925 ..... 590,000

Number of cards written at time of this report ..... 380,000

Number of cards to be written ..... 210,000

*Estimated

**Separate volume for 1921 was published in 1922.

**DENTAL MECHANIC** with good experience wishes to hear of position with Doctor. J. A. Frame, 2 Norway Avenue, Hamilton.

**FOR SALE**—Down-town practice in City of Vancouver. Will stand investigation. Price $1,200 for quick sale. H. Groot, 2059-44 Ave. W., Vancouver, B.C.

**FOR SALE**—Full dental equipment in good shape, including S.S.W. bracket engine, also a medium sized safe. Box 26, Dominion Dental Journal, 73 Richmond St. W., Toronto.

**FOR SALE**—Modern fully equipped Dental office in Manitoba town. Doing good business in good farming community. Present owner must leave for health reasons. Snap for quick sale. Box 27 Dominion Dental Journal, 73 Richmond W., Toronto.

**YOUR DULL BURS SHARPENED—HANDPIECES REBUILT—Just** box them up and mail to us. They will be sent duty free and returned to you the same way. Our charge for each bur sharpened is two cents. Send us your check for one cent for each bur sent us, we will sharpen only the best ones and you can mail us your check for the balance after you see the work. If you trust us—we trust you. Send two dollars with each handpiece, we return it the same way. And if after you see the work and it does not satisfy you we will return every cent you paid us, you be the judge. We know you will like the work, thousands do here and our price is the lowest, twenty-four cents per dozen for recutting burs, and no charge too high on handpiece repairs. Try us, send your work to NATIONAL BUR STONERS, GOSHEN, INDIANA.

# Dominion Dental Journal

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## ORIGINAL COMMUNICATIONS

### Extraction of Teeth

ADDRESS BY GEORGE B. WINTER, ST. LOUIS, MO., DELIVERED BEFORE THE ACADEMY OF DENTISTRY, IN TORONTO, NOVEMBER 2ND, 1925

In opening his address, Dr. Winter said that he had spent ten years in an attempt to classify all of the surgical conditions which surround the extraction of human teeth. He could have saved two years of this time if several years ago he had had an interview with Dr. Cummer, who had developed a classification in connection with partial denture construction.

Dr. Winter said that he was not altogether taken with this new idea of surgical removal of human teeth, that is, the method by which the buccal plate of alveolar process is removed and the tooth removed sidewise. Occasions for such an operation are quite rare. It is productive of trauma and danger of infection, besides leaving a sharp edge of bone on the lingual alveolar border. If it is left too broad it must be removed. When the case is finally healed there is less retention for an artificial denture than if the teeth had been removed in the ordinary way. He described at some length the removal of the lower first molar, second molar and third molar, placing great stress upon the advisability of having correct X-ray pictures, not only from the lingual, but from the occlusal plane. His illustration of all the conditions and positions in which the third molar or second molar may take, makes it felt that the dentist must plan the operation before he begins. The foundation of his technique is a correct diagnosis. He showed seven X-ray pictures of an impacted third molar, no two of which indicated the tooth in the same position. X-ray pictures which are taken for the purpose of locating the position of impacted third molars may be more misleading than if they had not been taken at all. Pictures correctly taken will show the contact point between the teeth and not overlapping each other. The enamel cap will show complete, crowned surface of the tooth will not present itself, the pulp chamber and root canal will appear in normal position. It is from this and other exact data that he determines, more or less, whether the X-ray pictures do properly

indicate the position, when such a picture is compared with a vertical picture, the position of the impacted tooth can be more or less accurately determined. Each position in which an impacted third molar may be found is exactly classified and can be removed by following a specific technique for that position. He says that the ordinary forceps have no place in the removal of an impacted third molar, and to forget about chisels, for cutting the bone. He thinks it quite unnecessary to cut the tooth into pieces before its removal.

Dr. Winter's lecture was remarkable for the amount of material used, the number of operations described in such a short while. Over 165 slides were shown and described. He speaks with great rapidity, and unusually clearly. The Toronto Telegram in an interview with Dr. Winter, made Dr. Winter say that he did not believe that third molars were any use and that it was not worth while to fill them. Besides this, he was supposed to have said that all impacted teeth should be removed; that they are the cause of obscure headaches, mental depression, and often cause insanity. The statements about the uselessness of third molar teeth was combatted by Dr. Grieve in the discussion. He said if first molars are diseased and extracted, they allow the second molars and third molars to come forward and come into normal occlusion. In support of this view, he showed an X-ray picture in which the first permanent molars were diseased and removed, followed by the moving of the second and third molars forward, in a perfectly upright position, so that the second molar was standing permanently beside the second bicuspid, in its proper occlusal relation. He showed another X-ray picture in which the four third molars were standing impacted behind the second molars. Subsequent pictures showed these third molars brought into normal proper relation with their antagonists.

Dr. Winter, in closing the discussion, said that he had no intention that useful third molars should be removed, and that it was not his view that all impacted teeth shou'd be removed, but such teeth as showed symptoms ought to be extracted. He rather jokingly reminded the Academy that they should not believe everything that appeared in the newspapers, in regard to scientific matters. The interview which credited to him the statement that third molars should not be filled was not at all accurate.

At the close of the session, Dr. Paul moved that a vote of thanks be extended to Dr. Winter for his admirable address on exact methods of removing Wisdom Teeth. This resolution was seconded by Dr. Dunn.

# The Management of Pulpless Teeth from Both the Clinical and Laboratory Standpoint

By U. G. Rickert, M.A., D.D.S., Ann Arbor, Mich.

Editor: We print this address from the Cosmos because it is so similar to the one delivered before the Academy of Dentistry, Toronto, Nov. 30th 1925.

I am fully conscious of the fact that I shall be severely criticized for what I shall have to say to-night by those who regard teeth as relatively superfluous organs, somewhat as we have become accustomed to regard tonsils and appendices. I am directing my remarks more especially to the dentist who still believes that teeth are God-given organs, contributing in no small degree to the health, comfort and happiness of those fortunate enough to possess them.

We would not have you infer from this that we are ignoring teeth as etiologic factors to some of the more general affections. Neither would we have you infer that we are deriding or ridiculing the opinions of the more radically progressive who have at times, as a result of certain clinical experiences, questioned the legitimacy of past practices in the management of pulpless teeth; for, if the facts were known, there are few of us who have had large clinical and institutional experiences who have not had moments when we too were quite in sympathy with the tendency.

When your committee invited me to Philadelphia I assume they had in mind a presentation co-ordinating the clinical and the laboratory viewpoints. Conscious of the many discrepancies of research results that have been so frequently submitted to you, one feels inclined to apologize for continuing the discussion from the research standpoint. On the other hand, in view of the many decisions relative to our problem that must be made in the daily practice, we still believe this to be the most vitally important single unsettled problem confronting the practice of dentistry, and it will continue to be so until one or another of several things happens.

The most fundamental means of controlling our problem would be prevention, but even the most optimistic workers in this field recognize that many years will be required before the results of preventive dentistry as related to our problem will become noticeably effective. It is indeed unfortunate that it has been the common experience of preventive medicine that the passing of many generations is, as a rule, required before the rest of us accept and put into practical operation that which the best of us know. It was Thomas Jefferson who wrote to Jenner, "Future generations will know from history only that the loathsome smallpox existed and that it was by you extirpated." A prophecy eminently more possible from the standpoint of specificity than ours! While we have favorably modified the prevalence and severity of smallpox, it is after a century and a quarter still active in the most enlightened and civilized countries of the world.

## Management of Pulpless Teeth

The management of teeth with involved pulps is an urgent and pressing problem. It concerns the very status of dentistry. The vacillating and indifferent attitude of the profession toward the subject for the past decade

must not continue, if we hope creditably to solve the problem. We have before us a splendid opportunity. It is one of our first experiences with a really important biological problem. We must solve it by the soundest measures of which the genius and skill of the profession are capable.

The verdict of the profession at large is that past methods must either be materially improved or the practice completely abandoned. At the present time the operator has to choose between two objectionable procedures. The one more destructive in character would have us eliminate all teeth with involved pulps and the other would permit the treatment of teeth of strategic importance by methods questionable from the standpoint of health service. The most constructive solution, with the single exception of prevention—yet far distant—demands refinement of clinical and of technical procedures that would permit the retention of important teeth without menacing the health of the patient. There are those who already have confirmed views and opposing opinions as to whether teeth may be safely treated by any method.

I realize and you will understand that usually the usefulness of a research worker is at an end in a given field when the worker becomes fully convinced of the truthfulness of one side or the other of the problem under investigation, and after he has formally announced his results as a finality. For this reason we who are studying this problem at the University of Michigan are doing everything possible to keep an open-minded attitude toward the subject, and the opinions that I shall give to-night are for the present. What I shall have to say in one year, and certainly five years hence, I cannot foretell, but until it can be proved, either as a result of our own investigations or as a result of the investigations of contemporary workers whose findings can be duplicated, that we are dealing with an impossibility, I shall direct my studies to the refinement of technique and the saving of teeth. We take this position because it is constructive, and the most careful analysis of all the evidence thus far presented fails to justify the general application of the more destructive course.

The most damaging evidence that would make the treatment of teeth with involved pulps appear contra-indicated is the rather well-established fact that such teeth may become initiating and more often contributing factors to some of the more serious systemic involvements. As to the frequency with which these associations actually occur, there is a wide difference of opinion between those with whom the idea has become an obsession and those who regard it as of minor significance. A second factor involves the inoperable condition presented by many of the multi-rooted teeth. It is true that with past methods the certainty of even approaching the generally accepted ideal root filling in multi-rooted teeth was questionable, and in many cases hopeless.

Turning to the more hopeful indications for refinement of methods, we have the living evidences of those who have had root-filled teeth for many years who have enjoyed the best of health. In this connection I wish to cite a case presented by Dr. A. R. Cooke of Syracuse, N.Y., which is of especial interest to me because the pulp was removed as long ago as 1870, and for the first thirty years was crudely filled by a method based on the principle of the newer methods now on trial by at least five students of the subject; that is, the addition of a slowly diffusible antiseptic to the permanent filling material. Many cases can be presented where such teeth have given service for more than thirty years and the patients are still in

good health. With the exception of the occasional full denture, there are few mechanical restorations that would have done so well.

Apart from my own clinical experience, the most convincing evidence that there is a rational solution to the problem from the standpoint of improved technique is the fact that patients do live with the inadequate and the miserable root fillings so commonly observed. In connection with our culturing of teeth, we opened many canals longitudinally and examined the contents with low magnification. We found within and even beyond the canals everything ranging from decomposed tissue and broken broaches to chips of alloy and gold fillings through which the operator must have opened the canal. The canal points usually used would have fitted any other as well as the ones they were finally supposed to fill. From radiographic examinations some roots appeared well filled but it was found after extraction that many of these fillings failed to seal any point of the canal.

The forcing of gutta-percha points from one of the several sizes the operator may have on hand into the roots of teeth, assuming that these were adequate root fillings, has been amply tried and has proved a miserable failure. Real root filling with a reasonably rational, mechanical and therapeutic procedure has not been tried on a large scale. There are operators who have the temperament and the mechanical ability to do this kind of work. Many of them have had wide experience with the operation; they have had the opportunity to observe patients over long periods. There is no use to try to stampede them into an extraction hysteria. This explains the difference of attitude toward the subject. The merits of the operation cannot be evaluated by the failures resulting from the inadequate practices of the past. The success of the chloro-percha gutta-percha operation is dependent more on fortunate accident than on the skill of the operator. How a high percentage of successful results could have been expected from this widely accepted technique is more than I can understand. We are not censuring the profession for having failed with a difficult and inadequate technique, but we do deserve criticism for not abandoning the method sooner. The chloroform-rosin of Callahan and the paraffin filling material of Prinz are evidences that these investigators early appreciated the limitations of chloro-percha. It is difficult to explain why these leads were not studied further.

### Requirements of a Root Filling

One may well inquire at this time, what are the requirements of the approximate ideal root filling as based on present-day conceptions? There has been less change of opinion as to what must be accomplished in the approximate ideal filling than there has been in the materials used and in the means of fulfilling the requirements. The students of the subject at this time are generally of the opinion that the structures within the cementum of the root must be thoroughly filled and sealed so as to prevent diffusion. Where this can be accomplished the natural reaction of the vital periapical tissue is believed to be sufficient in the majority of cases to prevent a focus for infection. With certain reservations, because of experiments in progress at the present time, I quite agree with the above conception. If the root permits infiltration from the circulation into the non-vital structures of the tooth, we have an ideal condition for proteolytic changes, with or even in the absence of bacteria. The periapical changes are the result of these continuous insults.

When we first began the study of metastatic infections we often had young patients referred to us with one or two teeth under suspicion. Among these patients there were young university women who flatly refused to have anterior teeth extracted even after we had found on culturing them that the apices were infected. It was at that time that Dr. C. J. Lyons gave me the following problem for investigation: Can a root canal be so treated that it becomes relatively free from infection; and if so, how long can the more favorable conditions be maintained? In brief, he wanted to know, if the roots were eliminated as a constant source of infection by treatment without extraction, whether the clinical changes under these conditions were as marked as when the more drastic measures were used. I treated many such teeth.

### Treatment

The treatment was continued with chloramin until the dressings that had remained in the canals for several weeks were still sterile. In a few cases we saturated J. and J. points with bouillon and permitted these to remain in the canals for two or three weeks. Several consecutive negative cultures were always required before the final root filling. We wanted to keep the patient under observation during the time that we were reasonably certain that the pulp canals were free from infection.

### Filling Materials

This introduced the problem of preparing a filling material that could be depended upon to maintain a sterile field for the six months or a year that we wanted to keep the patient under observation. We preferred to have the temporary filling remain in a plastic state so that it would be easily removed if, at the end of the observation period, we should decide to refill and retain the tooth. This filling must be stimulating but not irritating. We desired slight expansion in preference to contraction.

After experimenting with a large number of different combinations, the ingredients finally selected were: zinc oxid, calcium phosphate, thymol iodid for the basic powder and iodized glycerin for the liquid. We cannot here discuss the rationale of each ingredient but the iodin was incorporated for its alterative properties. Experimentally we have produced remarkable periapical tissue changes by sealing minute quantities of pure iodin into the pulp chamber.

After suitable treatment, the canals were temporarily filled with this combination. The paste was freshly mixed and spatulated to a thick, creamy mass, introduced into the pulp canal and carried to the very end of the tooth on a smooth broach. Thin gutta-percha points were then introduced to replace the filling material removed by withdrawal of the broach.

As previously stated, it was our intention to remove these temporary fillings within a year, but the unexpected therapeutic effect, as judged from every angle, has prevented our refilling many of them. Radiograms indicated favorable periapical changes in nearly all cases. We recognize the limitations of radiographic evidence in such cases, but insist that the improvement of the health of the patients treated averaged well with similar cases of improvement following extraction.

There are those who maintain that organisms adapt themselves to these slowly diffusible antiseptics. This contention is, we admit, a laboratory possibility but a practical improbability. The conditions are not comparable. Our conclusions are based on actual experience. We have removed such fillings in a few cases from teeth filled in the mouth several years

after the original treatment and have failed to find any of them infected. We have asked other investigators to supply us with laboratory teeth filled with their filling materials, including some slowly diffusible antiseptic. These teeth and laboratory specimens of our own filling materials were kept for many months in media frequently changed and inoculated with many mixed strains of cocci that were obtained from infected teeth. At certain intervals a tooth was taken out, the outer surface sterilized and the canal contents examined for infection. All, after many months, were found negative. We were anxious to do this for other investigators because the criticism put all the antiseptic root-filling materials on the defensive.

The idea that the root-canal structures cannot be made reasonably free from infection in operable cases has originated more in the minds of office desk research workers than from the results of actual investigations. The real truth of the matter is, that unless there is a continuous diffusion through the canal, thus supplying a fresh pabulum and removing the resulting products, the canal contents become sterile in the same way that cultures become sterile in the laboratory incubator. The periapical infections are, generally speaking, made possible by the insults of toxic materials diffusing from the above mentioned conditions, and by traumatism resulting from unsuitable drugs and over-instrumentation. It is our problem to prevent the latter and to reduce diffusion to the minimum so that infections can be reduced to the few and extreme cases that we shall discuss later as unfavorable types for any kind of root-canal operation.

The inadequacy of past root-filling materials is common knowledge. At the present time there are many students of the subject investigating other materials with a desire to find a preparation better adapted to our needs. The following properties are generally accepted as requisites. It must be free from volume change; it must be plastic so that it will more readily adapt itself to the irregularities of the various shaped canals; it should contain a non-irritating, slowly diffusible antiseptic without being soluble to the extent of seriously affecting volume change, and it should be opaque to the X-ray.

The encouraging results obtained from the above-mentioned temporary filling preparation led us to a new idea not thought of in the original investigations; that is, modifications intended to give greater permanence. The added requirements we now desired were that it be made opaque to the X-ray, that it have less volume change and, finally, it must set to a hardened mass. All this has been accomplished and, while present indications lead us to believe that its therapeutic value is about equal to the temporary preparation, we frankly admit that we have not had the extended clinical experience with the permanent preparation that we have had with the temporary, and are not offering the newer preparation as a finished product but as a basis for further study. We are well aware of the fact that still further modifications may become necessary. It is not a panacea to be used promiscuously as both a treatment and a final filling material. All that is claimed for it is that if preceded with suitable treatment in the types of cases to be discussed later, which we would consider suitable for treatment, it is easier to handle than any preparation we have tried thus far. It is adhesive and adheres well to dry canal walls. It is of such consistence that it cannot be forced through the foramina of well-formed roots unless there has been over-instrumentation. It can in this way be introduced

under pressure and adapt itself to the irregularities of the differently shaped canals. The volume change of the proper mix is negligible. We hope still further to improve its usefulness.

It would be impossible to examine all the preparations of this type that are gaining in prominence. For this reason, it will be evident to you that because of the years of clinical experience actually required before one can either approve or challenge the merits of similar preparations, much time can be saved by carrying on similar studies intended to demonstrate the principle upon which the treatment is based. We assure you that we have no commercial interest in any of these products, but believe they are worthy of study not only from the standpoint of research, but also in difficult cases where it is of utmost importance that the teeth should be retained. We would discourage the treatment of cases where the operator knows that a satisfactory root filling is impossible.

While our experimental studies have been limited to single-rooted teeth, we recognize that in more skilful hands the principle of root filling can be extended to include operable multi-rooted teeth. I am not an operator and believe if I can get favorable results in the easier cases, many of you can successfully treat the more difficult conditions. I am only trying to demonstrate how far our present practices can be depended upon to produce favorable clinical results, and to study the causes of unfavorable results. At present our practice with this operation must be conservative, which implies the use of judgment. The selection of cases to be discussed has been simplified tremendously during the past two years. While we have for some time considered the general health of the patient, Dr. Price's suggestion relative to heredity is a good one. There are still border-line cases that cannot always be accurately determined, but this difficulty is one that we hope to overcome soon.

As previously stated, one marvels that patients tolerate continuously the abominations so commonly observed. If I could be convinced that the more conscientious members of the profession were unwilling to take the pains of refinement of technique, I, for one, should be in favor of abandoning the practice, admitting though, that in this day and age of science we had failed to accomplish what could rightly have been expected of us. What would modern surgery have accomplished if all the surgeons had thrown up their hands in horror when it was discovered early in its history that more than half of the patients on whom operations were performed died as a result of infections acquired at the time of the operation? General surgery would still be in the dark ages and a most valuable part of scientific medicine would not have been perfected. There will be some who will say that the importance of our problems as compared with those of general surgery is not comparable, which in a broad sense is true, but the real question for us to determine is, are we as dentists willing to do less than we are capable of doing, or are we going to do all that the brain and skill of the profession will permit for the advancement of our field of surgery and the benefits of humanity?

If we desire to maintain a creditable status as a profession we must solve this tremendous problem, and certainly from all the evidence so far presented, it is not a hopeless one. Promiscuous extraction would not only set us backward for a half century but, in view of recent observations, would fail to accomplish what its advocates claim for it—health service. A few years ago in speaking to medical groups we frequently made the state-

ment that we were passing through a period of past failures, that dentists were not removing pulps promiscuously, or at least not until all efforts to save such pulps had failed. We hoped that the ingenious methods and devices developed for the capping of nearly exposed pulps and the vital tooth attachments for the restoration of lost teeth would materially solve the problem. In this we have been disappointed, for patients suspected of metastatic infections are referred to us in increasing numbers. We now, before solving our original problem, find a new demon of the night facing us, often more obscure and difficult to diagnose than the inadequately treated pulpless tooth. I have reference to teeth with degenerating pulps.

## Teeth With Degenerating Pulps

We cannot do justice to this aspect of our problem because the evidence that we have would require more time than is permissible in this paper. It is a tremendous subject in itself. This much can be said now—it is no longer sufficient, when a patient is referred from the physician to the dentist, to test teeth for vitality and to extract all with non-vital pulps and be assured that the dentist's field of operation is eliminated as a possible focus of infection.

We are not introducing this new menace to confuse you further, but to bring to you a realization of the importance of our problems. We have a new problem for operative dentistry to solve, which is the conservation of pulps under restorations, and the new problem is not all due to inadequate practices of the operative departments, for degenerations have been observed in teeth with extensive abrasions and other obscure causes not easy to explain. We realize that this conception will meet with severe criticism and skepticism, if not ridicule, but our information is sufficiently complete to withstand any attacks on the validity of our statements. We ourselves have in the past removed pulpless teeth of patients where physicians have assured us that thorough examination had proved negative in their fields, with no improvement in the patient's health. We now know that there were cases where more marked relief would have been obtained if we had extracted the teeth with vital as well as those with non-vital pulps.

While many of the earlier writers, Goadby, Seiberth and others, mentioned the presence of organisms in the latter stages of pulp degeneration, it remained for Lyne and Collins, and later Hartzell and Henrici, to study the bacteriology of vital pulps in the early stages of degeneration. These investigators called attention to the frequency of the presence of bacteria in the pulps of teeth with large fillings, extensive caries and pathologic conditions of the enveloping membrane. Their observations were later verified by Rickert, Lyons and Ludlum, although the latter did not find the organisms in so large a percentage of cases.

More recently Dr. C. J. Lyons and I have studied the significance of this type of infection to some of the more general disorders. This observation is the result of an experience that may be worth mentioning at this time. In 1918, Mr. T., a contractor, sixty years of age, came to me and demanded the extraction of all his teeth. Examination revealed a rather unhygienic mouth with a total of twenty-six teeth with vital pulps. The patient was asked to explain why he insisted on the removal of all these teeth and he said that an employee of his had suffered from rheumatism and had been cured by the extraction of his teeth. He told us that he had

been incapacitated for eighteen months, had suffered a great deal, and had fully decided that his teeth were the cause of the rheumatism. He further stated that if we refused to extract them he would find some one who would do it. Thinking that this would be a novel experiment in which to study the relation of psychology to the disease, we decided to extract the teeth. Much to our surprise the patient returned to his work and insisted that the rheumatism had disappeared. The pulps had all given positive evidence of vitality. We regret that they were not examined for infections and evidences of degeneration after extraction. It should have been mentioned that two-thirds of the natural crowns were abraded, necessitating marked pulp changes.

Several similar cases were reported to us from other observers that obviously were very confusing at the time, but in view of recent observations can be better understood as infected, degenerating pulps. While the systemic expressions vary, the greater number of patients studied to date have been cases of myositis initiated with a stiffness of the muscles of the back of the neck, finally attacking the gluteal muscles with varying degrees of severity.

In order that you may more readily verify our observations, we shall cite a typical case:

A lady about forty-five years of age, with the above symptoms, presented and the most painstaking pulp tests from several operators proved all pulps vital. There was an upper premolar that had a very slight evidence of periapical change, but the pulp tested normally. We obtained a culture by the window method. This proved positive. The patient, a few days later, called us and said that the pains in the back had entirely disappeared. We decided to extract the tooth, and on opening the canal we found three different kinds of organisms from direct smears. These were again recovered from cultures. The patient suffered a severe reaction with a temperature of 102° for three days; then several weeks passed and the back pains did not return. The tooth had two beautiful gold fillings. We attribute the favorable change following the window culturing to the drainage made possible through the opening made for culturing.

This newer information has complicated diagnosis tremendously. As an illustration, a patient has just left the clinic who has the identical symptoms frequently observed in patients known to have suffered with infected degenerating pulps. This patient is about forty years of age, has one root (lateral) filled which is a splendid attempt at filling as judged from radiographic evidence. We cultured this tooth by the window method with negative results. Unlike the above patient, his pains did not disappear following window culture. He has several beautiful and very substantial large inlays and bridges and the pulps respond to all vitality tests. The patient is suffering and has had the best physicians, who have failed to locate the initiating factor. Shall we extract these vital teeth on suspicion?

You will appreciate the added difficulties of the diagnostician. There is every reason to believe that many of the remarkable recoveries observed on the removal of all teeth, especially so in certain of the arthritics, have been due to the extraction of infected degenerating vital pulps as well as to the pulpless teeth. It is a factor to be considered in those cases where both the dentist and physician have failed to locate the initiating causes of some of the more general affections. While it is too early to make a definite statement, it would appear from a study of a limited number of

patients that those highly susceptible to infections of pulpless teeth are generally the very ones who are most susceptible to pulp degenerations under large restorations. It would be very difficult to conceive of a more favorable condition for increasing the virulence of an organism than that presented by multi-rooted teeth where the pulp in one root is non-vital and in the others vital.

In conclusion, we want to impress upon you the importance of solving our problem in preference to destroying it. As a profession we must encourage more competent research and discourage investigations attempting only to discredit the practice. The development of operable surgical procedures is of concern not only as it solves our immediate problem but as a contribution to the advancement of science. If the time ever comes when the profession accepts the mandates of the destructionists and is willing to admit that we have failed to solve this, one of its first really important biological problems, I prefer to be a diagnostician. It will require no skill and certainly but little intelligence to raise a set of radiograms to the light and tell the patient that certain or all teeth must be extracted. The real skill will be required from those whose duty it will be to take up the complicated tragedy and make the best of it.

The Chicago physician and the parent who permitted a permanently defective child to die, whose life could have been prolonged, may have been justified from a moral and sociological standpoint, but it was not sanctioned by the most eminent physicians and surgeons, because they recognized that to them the saving of life was paramount. As dentists we must join our big ally in the saving of life, and second to that, and second to that *only*, it is our job to save teeth. We must anticipate, as surgery has done, that during the development of the greater service some patients may be seriously inconvenienced. This cannot be avoided, for we are not thinking for the day only, but we are thinking in terms of the ages.

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I saw a weaver at his loom,
And as he worked, the weaver crooned a tune.
Hard by the loom some threads discarded lay
They were the snarls—mistakes of yesterday.
And there were threads by far a brighter hue.
They were of hope—the threads of prospects new.
I saw the weaver choose the threads with care.
Slowly he wove them in a pattern rare.
Some threads appeared in bold relief and free—
High lights were they in life's tapestry.
You are the weaver of your future days,
Sing as you weave—success will reign always.

—*Author Unknown, but doubtless C. Edmund Kells. (Ed.)*

# SOCIETIES

## Dominion Dental Council of Canada

The following have passed their Dominion Dental Council examination on:

Operative and Preventive Dentistry—W. G. Dawson, R. W. Hughes, H. W. Kerr, G. W. Kerster, G. S. MacDonald, E. H. Urie.

Prosthetic Dentistry—Lois Adams, F. H. Cowan, W. G. Dawson, G. W. Kerster, G. S. MacDonald, E. H. Urie.

Anaesthetics—W. C. Addenell, F. H. Cowan, S. Coss, W. G. Dawson, W. E. Hainer, R. W. Hughes, G. W. Kerster, W. B. Milburn, G. S. MacDonald, H. W. Reeves, G. B. Thurston, E. H. Urie.

Pathology and Bacteriology—R. L. Falconer, H. W. Kerr, G. W. Kerster.

Bacteriology (only)—W. B. Milburn, H. W. Reeves.

Jurisprudence and Ethics—G. W. Dawson, H. W. Kerr, G. W. Kerster, G. S. MacDonald.

Physiology and Histology—W. E. Addenell, L. M. Calbeck, H. M. Corlett, J. W. Dobson, D. R. Frier, W. E. Hainer, A. B. Havenstock, L. G. Israel, G. W. Kerster, W. M. Lloyd, H. F. Moffat, J. M. McBrien, G. C. Squire.

Histology (only)—J. F. Brock, C. Findlay, D. A. B. MacDougall, L. R. Slemon.

Medicine and Surgery—W. F. Armstrong, W. G. Dawson, H. W. Kerr, G. W. Kerster, G. S. MacDonald.

Anatomy—W. E. Addenell, G. F. Brock, H. M. Corlett, J. W. Dobson, C. Findlay, R. Falconer, D. R. Freir, A. B. Havenstock, G. B. Howard, P. Hutzulak, L. G. Israel, D. A. B. McDougall, G. C. Squire.

Materia Medica and Therapeutics—G. W. Kerster, G. B. Thurston.

Physics and Chemistry—W. E. Addenell, G. M. Dewis, W. H. Godsee, W. E. Hainer, G. W. Kerster, J. P. Millar, Donald Smith, G. C. Squire, J. A. Tupper.

## Chicago Dental Society's Annual Meeting and Clinic

January 27, 28 and 29, 1926—Drake Hotel

The sixty-second annual meeting and clinic of the Chicago Dental Society will be held at the Drake Hotel, Chicago, January 27, 28 and 29, Wednesday, Thursday and Friday. The plans for this meeting have been perfected and contemplate the establishment of a new mark in program building. That the 1926 meeting will excell all previous records of this Society is witnessed by the following facts:

1. There will appear on the literary program 256 men to present papers, addresses and discussions in the ten different sections, and at two noon-day luncheons and the two big general session meetings.

2. Two one-half days will be devoted to clinics: Thursday afternoon and Friday morning. This clinic will consist of seven types, as follows:

(a) Progressive clinics,
(b) Lecture clinics,
(c) Section clinics,
(d) Junior clinics,
(e) Table and chair clinics,
(f) Study club clinics,
(g) Senior student clinics.

There will be a total of 200 clinics; 100 to be given each half day.

3. The President of the American Dental Association, Dr. Sheppard W. Foster, and Mrs. Foster, will be the guests of honor at a banquet, which will be followed by a program of dancing and entertainment.

4. The number of commercial exhibits will excell all previous records for more space has already been sold than for any previous meeting of this Society.

Railroad rates have been secured for this annual meeting.

A special invitation is extended to all members of the American Dental Association and to dentists living in foreign countries who are members in good standing in their national societies.

Hotel reservations should be made immediately, direct with the hotels.

We are gratified to announce to the profession that Dr. Otto U. King, General Secretary of the American Dental Association, is chairman of the programme committee.

M. M. PRINTZ, President.
HUGO E. FISHER, Secretary,
25 E. Washington Street.

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# Routes to the Canadian Dental Convention, Halifax, August 16, 17, 18, 19, 1926

A number of inquiries have been received as to the different routes by which Halifax can be reached. There is a choice of three routes, depending on whether you are planning to travel by train, motor or water.

Rail.—There is a choice of two routes from Montreal. First, by the Canadian National line, running along the St. Lawrence valley, then across New Brunswick to Moncton, passing through the Metapedia Valley. Then to Halifax by way of Sackville, Amherst, Truro, etc. Second, by the Canadian Pacific through a portion of Maine and New Brunswick to St. John. From St. John there is a choice of two routes, either by way of Moncton and then to Halifax by the same route as the C. N. R., or by boat to Digby, then by way of the Annapolis Valley to Halifax. This route passes through the famed Evangeline country, so intimately associated with the history of the early settlement of Canada by the French and English.

Those who are planning to take side trips to P. E. Island or Cape Breton will find the route through Moncton the more direct. Connection for P. E. Island is made at Sackville, and for Cape Breton at Truro.

Motor—The route recommended is Quebec, Riviere de Loup, Edmunston, Fredericton, St. John. This portion of the trip includes a beautiful trip down the St. John river valley. Then from St. John there is a choice of either continuing on to Moncton, thence to Halifax by way of Amherst, Parrsboro, and Truro. The alternate route from St. John is by boat to Digby, then to Halifax through the Annapolis Valley, or by a slightly longer route along the South shore of Nova Scotia.

The roads are good all the way, with convenient hotels and service stations. All the routes are marked and picturesque side trips from the above main trails can be readily taken.

Water—The trip may be taken by water direct from Quebec to Halifax by a very comfortable line of steamers, designated for the summer tourist traffic. The present schedule plans for a steamer to arrive in Halifax on the morning of the 17th, it is possible that it might be arranged to have this boat arrive in Halifax on the 16th if a sufficient number are interested.

A varied supply of booklets and maps giving more detailed information of the above trips are available, and we will be very glad to put you in touch with this information if you will let us know the route which appeals to you.

C. B. H. Climo,
315 Barrington St., Halifax,
Chairman, Transportation Comm.

J. Stanley Bagnall, Secretary,
Canadian Dental Association,
34 Larch St., Halifax.

## The Faculty Letter

It will be remembered that the Board of Directors of the Royal College of Dental Surgeons, at the annual meeting, May 1924, directed that "a Faculty Letter be published under the direction of the Executive of the Faculty, and a copy be sent quarterly to each member of the profession in Ontario, at a cost not to exceed $200.00 for the year."

Acting under these instructions, the Faculty Executive issued two numbers, June and September 1924. At the Board meeting in October, 1924, the matter of the "Faculty Letter" was informally discussed, and it was decided, in view of the possibility of the transfer of the School of Dentistry to the University, to suspend publication.

On January 8th the ballot on the transfer was ordered, with the subsequent verdict favorable to the transfer. On July 1st The School of Dentistry became a Faculty of the University.

As it has not been the policy of Faculties in the University to issue such publications, the Executive of Dental Faculty of the University, at a meeting on November 20th decided that, under the circumstances that it was inadvisable to continue the "Faculty Letter."

(A memorandum proposed for publication in the Dominion Dental Journal and Oral Health).

# Editorial

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## The Earnestness of Attendants at Dental Meetings

In the recent issue of the S. S. White letter there is some frank comment on the last meeting of the American Dental Association. The letter points out what is markedly noticeable to any one who has had the dental meeting habit. In times past there were two distinct types of attendants in evidence—the technician and the dental politician. The earnest student, researcher, artist and scientist of to-day are the logical descendants of the technician and the public health advocate and the student of dental education, legislation and foreign relations have absorbed the attention of the former cloister politicians. It often happened that after the inaugural ceremonies were over some of the most prominent lights of the profession were not seeable again until some social event indicated the closing affairs of the meeting. For them dentistry had nothing in it to hold their attention outside of the social aspect. This is all changed. There is now a different kind of politician. One who must make his way in the open. There is opportunity for those who know there is something worth while in dentistry, to get an audience. The technician still has a place, but his work must be based on a better foundation than formerly.

# The Legion of Honor Comes to Canadian Dentistry

The National Order of the Legion of Honor was created in France by Napoleon the Great in 1802, with the aim of rewarding military men for their bravery and courage. In 1852, Napoleon the Third, extended its object to reward also civilians. It is the greatest honor that France can bestow on anybody in recognition of what they have accomplished in any sphere of activity. It has its seat in Paris on De Lille St., a magnificent building known as the "Palace of the Legion of Honor," and the actual director is General Dubail. The chief of the order is the President of the French Republic. The official insignia of the Knighthood, called the Cross of the Legion of Honor, has the shape of a St. Andrew's cross with the emblem or motto of the French Republic with a red ribbon. It is worn in the buttonhole of the coat as a little red ribbon. The official insignia is worn on academic or special occasions. The military men in France always salute those who are decorated. The government issues a diploma signed by the President of the Republic. Before it can be granted the titles of the person must be sent to the committee in Paris, and recommended by the Consul of the country where the person lives. The red ribbon cannot be worn before the Consul decorates the new Knight officially. The only dentists who have it at present in America are Dr. Truman W. Brophy, of Chicago, Dr. H. L. Wheeler, of New York, and Dr. Eudore Dubeau.

Canada and Canadian dentistry especially are justly proud of the distinction which has come to one of their number. Dr. Dubeau has for more than twenty-five years taken a very prominent place in Canadian citizenship. He has on many occasions represented Canada and Canadian dentistry at international gatherings, Congresses and executives. He gave his organizing abilities in promotion of the first meeting of the Canadian Dental Association. He has sat for years on the Board of Health of Quebec and has been Dean of the Faculty of Dentistry of Montreal University since its inception. In the affairs of state he has held many prominent places. For years he was acting Mayor of the city of Montreal, and at every political gathering of importance in Quebec he has his hand. The distinction which has come to him through the French government is a mark of meritorious work in the interests of humanity. The Dominion Dental Journal is proud of the recognition which has come to one of its editors.

Sir Frank Callyer reported in the April issue of the proceedings of the Royal Society of Medicine that in 795 monkeys' skulls examined 62 carious teeth were found among those of the wild state, and in 417 examined of the captive state 118 teeth were found carious. It is thus evident that the teeth of the captive monkey are more likely to be carious. In another table approximal decays are compared with crown decays. In this 20% in the wild state have crown decays while 80% in the captive state have crown decays.

A reasonable explanation of this latter observation might well be that crown decays are more prone to occur in the crowns of captive monkeys' teeth because of the greater possibility of defects in the crowns owing to improper diet during the period of tooth development in the captive monkey. These observations seem to corroborate those of Peckerel and Mellanby that modern teeth have more defects of enamel and dentine than those of native races. It also strengthens the methods of practise of Black and Hyatt that defects in enamel should be treated as soon as discovered. Pits and fissures should not be allowed to remain untreated.

## We Welcome Dr. Johnson

In the November issue of the Journal of the American Dental Association appears the simple statement that the business management of the Journal will in future be under the guidance of Dr. Otto W. King, and that Dr. C. N. Johnson will conduct the Editorial department. Everybody welcomes Dr. Johnson to the ranks of active journalism again. Since the Dental Review ceased publication, Dr. Johnson has continued to contribute to dental periodical literature through many channels. The direction of the dentists' own Journal of America will again give him an opportunity to meet the profession monthly. His first taste of journalism came with the third International Dental Congress, when Dr. Harlan resigned the editorship of the Dental Review to give attention to the organization of the Congress, and now as the Seventh International Congress comes on Dr. King resigns the editorship to give time for organization of the Congress and Dr. Johnson comes to the rescue again. We welcome him.

## Lighting for Dental Operating

Dr. Jas. R. Cravath, an illuminating engineer, made a number of experiments upon the effect of illumination, especially regarding intensity. His experiments showed "all light in the eye in excess of that required adequately to disclose the visualized object is a source of depression in visual function." In practise this would involve the observance of the following principles:

1.—Do not use the eyes when facing any considerable window area.

2.—In interiors or where close work is done employ as dark walls as possible and yet avoid a gloomy or depressing effect.

3.—Use white or very light ceilings to reduce the glare from glazed surfaces.

4.—Avoid glazed surfaces as far as possible.

5.—Mount the lights high, well out of the field of vision.

6.—Avoid the use of wall brackets. They are inefficient and objectionable on account of the light they throw in the eye.

7.—Unless the walls are dark the light should be arranged to throw as little light on the walls as possible—the least possible will be too much.

8.—Lastly, again you are cautioned to avoid over-illumination as zealously as under-illumination.

Remember that electricity has brought about conditions that are equally as dangerous as was the use of poor kerosene lamps and candles by our ancestors.

The shadows of an object on white paper should not be so sharp that the object can be drawn from the shadow as well as the object. A few fixture manufacturers have harkened to the pleas of the illuminating engineers and are making them for utility and not to match some color scheme or historic period and be pretty whatever their inefficiency. Remember that bare bulbs sticking down below shades or uncovered altogether are the worst source of light. In private houses the best idea is to have the bulb covered with an opal glass covering that will diffuse the light and soften its effect.

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# Resolved, That Practically All Infected Pulpless Teeth Should be Removed

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This was the subject of debate between W. A. Price and H. J. Buckley before the odontographic society, Chicago, October, 1925. Over two thousand dentists heard the debate, while many had to go away because of want of room in the hall. Both these authors have presented their respective sides of this subject many times without attracting such a large audience. The fact is all Anglo-Saxons love a fight. The reports say that the audience soon took sides with one or other speaker and left the room without being influenced by the arguments. There was no vote or decision by judges as was originally intended. Dr. Price spoke for one hour; Dr. Buckley one hour. Dr. Price again 15 minutes, Dr. Buckley 15 minutes, and Dr. Price closed in five minutes. Dr. Price took the ground that infected pulpless teeth cannot be successfully sterilized, and even if they could be the remaining toxins would be detrimental to health. Price said because of the uncertainty of root treatment that in a large proportion of susceptible patients it was unwise to leave any possible source of infection in the mouth. And since it has been established that pulpless teeth are a common source of focal infection then they should be removed. Buckley on the other hand held that Dr. Price's teachings were unsound because they were founded on laboratory rather than clinical findings. He held that since the normal secretions of the body were not germ free that there was no sound reason for expecting the roots of teeth to be free from germs. No tooth should be extracted unless it is known to be the cause of local or systemic infection. Too often the teeth are secondarily infected in systemic diseased conditions. Dr. Buckley urged that each case should be determined on its merits and that there should not be any general accusation against pulpless infected teeth.

# Explosion in Patient's Mouth

A loud explosion in a boy's mouth while an operation was being performed at a London hospital was the extraordinary cause of a death investigated recently.

A boy, named Laurence Henry Sims, aged 16, of Lonsdale Avenue, East Ham, was being operated on for a broken jaw, the result of a collision between his bicycle and a motor-car.

*Ether and Oxygen.*—Dr. J. Keith Davidson explained at an inquest that it was necessary to use warm air to keep the patient's teeth dry. The warm air was applied with a dental syringe. Ether and oxygen was the anaesthetic used.

Dr. Percival Cole, of Harley Street, who performed the operation, said that the light at which the dental syringe was warmed was six feet away from the operation table.

After the third application of the hot air a tremendous explosion occurred, and within two or three seconds the whole apparatus burst into flames.

During the war, said Mr. Cole, 1,600 cases of this sort passed through his hands, and what was done in this case was merely routine work.

Ether was very inflammable, and in operations where flames were used there is great danger. In this case there was no naked flame near.

The explosion, in his opinion, must have arisen from the mixture of vapors. That these vapors were inflammable had not hitherto been considered surgically.

# Dentistry in Toronto Should Maintain Its Identity

A few years ago when the Academy of Dentistry, Toronto, was established the Academy of Medicine made a very attractive offer to dentistry to become partners in the Academy of Medicine. There was some unseen influence which seemed to stand in the way of getting together. However since that time the Dental Academy has held its general meetings in the Academy of Medicine rooms. The study and clinic clubs held their meetings in the Dental College. Since the establishment of a faculty of dentistry it does not seem so easy to use the Dental College building as formerly. In fact a charge is made for heat, light and service. This very situation was foreseen when the negotiations were in progress with the Academy of Medicine. Dentistry as a profession must not lose itself as an entity because the teaching is now in the hands of the University. It must have a rallying centre of its own so that it can give assistance, power and weight to carry its views into effect. The profession has almost unanimously said that dentistry must be taught by the University because of this unanimity of opinion the profession should give support to the University in every way possible. If opportunity should arise again for dentistry to get a permanent home in Toronto it should grasp it.

# Notes

Drs. J. Lowe Young and Thomas B. Hartzell gave radio talks during the clinic meeting at Montreal.

Dr. Ryerse, of Port Dover, was held up and robbed of her purse on her way from her office to her home.

Dr. Walters, Toronto, broke his arm cranking his car. This accident is so frequent that special protection should be provided in a mechanical way.

Dr. Huffman, Forest, Ontario, appealed to the Supreme Court to have returned to him money which he sent Ross, a partner of J. G. Beatty & Co., stock brokers. Decision reserved.

Wrong or doubtful diagnosis of teeth troubles is impossible if X-ray films are properly taken and studied.—*Dr. Herman Osgoode.*

Let us hope that this is a newspaper statement and not that of Dr. Osgoode.

A country like Canada can ill-afford to spend millions annually on educating young men and women to go to the United States to increase their wealth. There is a class of citizens of foreign countries coming to Canada which might be spared.

The Edmonton Dental Society commenced its monthly meetings for the season on Tuesday evening. A dinner was held at the Macdonald Hotel followed by the election of officers for the next year. The result showed Dr. Leslie McIntyre, president; Dr. R. S. Decker, vice-president, while Dr. Alex. Gemeroy was re-elected secretary.

The officers of the Montreal Dental Club are: President, F. H. A. Baxter; vice-president, A. N. Jenks; secretary-treasurer, W. C. Bushell; committee, D. P. Mowry, F. A. Stevenson, J. C. Flanagan and A. L. Walsh; special committees on arrangements, Chas. F. Morrison, J. S. Dohan, Geo. Cameron, F. G. Henry, A. W. McClelland, H. V. Driver, Chas. Barr, J. Rubin, J. S. Common and Ross Cleveland.

Dr. Thomas B. Hartzell, in his radio talk on the care of the teeth at Montreal said that fifteen minutes should be spent in brushing night and morning. Rubbing and friction of the gums would seem possible, but why spend fifteen minutes on the teeth unless it is to wear them away. It is gratifying that he didn't add a gritty mouth preparation to the fifteen minutes brushing. It is just this excessive or extreme advice which often deters many from doing any. It is on a parity with advising brushing before and after each meal, before going to bed and on arising. Too much. It won't be done. Better advise what can be accomplished.

The Niagara Falls Review says in connection with the establishment of dental clinics that they are on a parity with supervised playgrounds, bathing and swimming facilities, they pay for themselves by saving in other directions. It is said that the medical profession is putting itself out of business by furthering health measures. We should like to know since when have the medical profession done any public health work. Their whole education in the past, and to a large extent to-day, is curative not preventive. Note that all health organizations hover around civil government.

# A Leaky Vulcanizer

Kamloops, B.C., Nov. 6, 1925.

Dominion Dental Journal,
Toronto, Ont.

Dear Editor.—Just a tip for the average, or any practitioner, re leaky vulcanizer, if no manufactured "packing" is on hand. Cut a strip of rubber (for plates) a quarter inch wide, the length of the sheet, dip it in hot water, stretch it around the edge of the vulcanizer while warm, screw down the top, and there you are. This may not be new, but I never heard of anyone doing it till I got "hung up" myself and did not have time to send to the dealer. I would also like to express my appreciation of the D.D.J.

Yours very sincerely, for ethical common sense dentistry,

J. E. L. RICHMOND.

# Book Reviews

## Broken Bridges

*Broken Bridges*, by S. J. Levy, D.D.S., Managing Editor of The Dental Outlook. A book of short stories and plays of dental life. Cloth $2.00. Flexible leather $2.50. Obtainable through the author, S. J. Levy, 820 Hopkinson Avenue, Brooklyn, N.Y.

This is a nicely gotten up book of short stories and plays, by the editor of The Dental Outlook. The title of the book has nothing to do with its content. It is like the title or name given the breakfast food "orangemeat." It is so named because there is neither orange nor meat in it. There is nothing about bridges or accidents therewith in the book. There are a dozen or more stories and a half dozen plays, the plots of which are laid in and about dentists and dental practise. They touch the human side of dental life. Most of them illustrate a definite phase of human character and quit at that point, others convey a useful lesson in law, ethics, jurisprudence, psychology and theology. All are entertaining, indeed fascinating. One or two illustrate rather base characters but truthful. The true story of Doctor Maximilian Larov illustrates a queer streak of human nature. This young Russian was a graduate in dentistry who could not make it go in practise in New York city as a graduate, but began in a new location as a non-graduate and had wonderful success, was regularly fined for practising without a license, and finally jailed, but dare not reveal the fact that he held a license because it would destroy his practise. As soon as many of the dental quacks in England got licenses their practises were gone. There is a man practising in Toronto for over twenty-five years who if given a license would be out of business in a year. Don't forget this book if you want to learn about dentists as they are in practise.

# Pathology of the Mouth

By Frederick B. Moorehead, M.S., D.D.S., M.D., Dean of the College of Dentistry, University of Illinois, and Associated Professor of Surgery Rush Medical College; and Kaethe W. Dewey, M.D., Assistant Professor of Pathology, College of Dentistry, University of Illinois. Publishers: W. B. Saunders Company, Philadelphia and London. Dedicated to Frank Billings and Arthur Dean Bevau.

The author realizes as many dentists have that the mouth is a neglected field. However much has been written on dentistry there has been little of value about the mouth outside of the teeth. The physician and surgeon have left the field of the oral cavity to the dentist. The dentist as these authors say, has had little training in pathology and even less in general medicine, so he cannot diagnose diseases outside of the teeth. This work is an attempt to bring together much of the scattered material, so that it may be available to both the dentist and the physician. It is a description of the many diseases of the mouth, but has no reference to treatment—a pathology of the mouth in the broadest sense it not only discusses the morbid process of oral diseases but also discusses the symptoms, progress and diagnosis.

In the preparation of such a work there is great difficulty in giving due proportion to the manifold manifestations of mouth maladies. While we might think there is too much space given to malignant diseases other readers might think some other sections had too much space. The author's long experience as a student-teacher and practitioner has given him such a background that there is little to be desired beyond what appears in the work. We heartily commend this work to all dentists who have any notion of treating any other part of the mouth than the hard parts of the teeth. It is clearly written, well printed and illustrated, contains about 500 pages.

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